

Los Alamos National Laboratory

Federal Facility Compliance Order

**Annual Site Treatment Plan Update
for Fiscal Year 1998**

Background Volume

March 31, 1999

Los Alamos

NATIONAL LABORATORY



1943

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ACRONYMS

AMWTP	Advanced Mixed Waste Treatment Project
BIR	Transuranic Waste Baseline Inventory Report (see also TWBIR)
BNFL	British Nuclear Fuels Limited
BV	Background Volume
CCA	Compliance Certification Application
CIF	Consolidated Incineration Facility
CPV	Compliance Plan Volume
CY	Calendar Year
DOE	Department of Energy
DOE/CAO	DOE Carlsbad Area Office
DSSI	Diversified Scientific Services, Inc.
EM	Environmental Management
EPA	Environmental Protection Agency
ETDC	Environmental Technology Development Center
FFCA	Federal Facility Compliance Act
FFCO	Federal Facility Compliance Order
FY	Fiscal Year
INEEL	Idaho National Engineering and Environmental Laboratory
IPAs	Isopropyl Alcohols
IT	International Technology
LANL	Los Alamos National Laboratory
LDR	Land Disposal Restrictions (RCRA)
LWAA	Land Withdrawal Act Amendments
MLLW	Mixed Low-Level Waste
MTRU	Mixed Transuranic
MWIR	Mixed Waste Inventory Report
NMED	New Mexico Environment Department
NMVP	No-Migration Variance Petition
PCB	Polychlorinated Biphenyl
RCRA	Resource Conservation and Recovery Act
STP	Site Treatment Plan
TRU	Transuranic
TSCA	Toxic Substances Control Act
TWBIR	Transuranic Waste Baseline Inventory Report
UC	University of California
WCS	Waste Control Specialists
WIPP	Waste Isolation Pilot Plant
WPF	Waste Profile Form

1.0 INTRODUCTION

On October 4, 1995, the New Mexico Environment Department (NMED) issued a Federal Facility Compliance Order (FFCO) to the Department of Energy (DOE) and its management and operating contractor, the University of California (UC) Regents. The FFCO required Los Alamos National Laboratory (LANL) to implement the Site Treatment Plan (STP) for the treatment of mixed waste at LANL. The STP was written to address treatment capacities and technologies to treat all of LANL's mixed waste, regardless of the time it was generated. Section VII of the FFCO requires LANL to submit an Annual Site Treatment Plan Update (Update) to the NMED each year on or before March 31.

The STP contains two volumes, the Compliance Plan Volume (CPV) and the Background Volume (BV). The FFCO requires that the Annual Update bring the information in both volumes current to the end of the previous federal fiscal year (FY). The update to the BV provides the following information:

- The amount of each covered waste stored at LANL as follows: (1) the estimated volume in storage at the end of the previous fiscal year; and (2) the estimated volume anticipated to be placed in storage for the next five fiscal years;
- A progress report from the end of the previous federal fiscal year describing treatment progress and treatment technology development for each treatment facility and activity scheduled in the STP; a description, if applicable, of current or anticipated alternative treatment technology that is being evaluated for use instead of treatment technologies or capacities identified in the STP;
- a description of DOE's funding for STP-related activities and any funding issues that may affect the schedule;
- the status of the "No-Migration Variance Petition" or any treatability variances; and
- a progress report on characterization and /or treatment capabilities or plans for mixed transuranic waste (MTRU) related to the waste treatment standards, if any, for the DOE Waste Isolation Pilot Plant (WIPP) facility near Carlsbad, New Mexico.

The following information contains the update to the BV.

2.0 THE AMOUNT OF EACH COVERED WASTE STORED AT LANL.

2.1 MIXED LOW LEVEL WASTE (MLLW) INVENTORY

During FY98, MLLW covered inventories decreased from 348.3 to 261.97 m³. Table 2.1-1 below summarizes changes to the estimated MLLW covered waste inventory for FY98. During FY98, 10.90 m³ of new waste became covered waste, and 99.93 m³ of covered waste was treated, recycled, decontaminated, or used in a treatability study.

TABLE 2.1-1: FY98 MLLW Inventory Summary

Contribution	Volume (M3)
MLLW Inventory Reported in FY97 Annual Update	348.3
Revision 7.0	349.54
Proposed Revision 9.0	
New Covered Waste	10.90
Offsite Treatment	(67.50)
Offsite Recycle	(17.17)
Onsite Decontamination	(11.68)
Treatability Study Use	(3.58)
Administrative Adjustments	1.46
MLLW Inventory Reported in FY98 Annual Update	261.97

Table 2.1-2 below provides the detailed FY98 covered MLLW inventory changes by treatability group. Revision 7.0 changes are detailed in Appendix C, *Reported STP MLLW Inventories 1998 (through Revision 7.0)*. For convenience, the 1995-1996 Reported STP MLLW inventories are included as Appendix A and the 1997 Reported STP MLLW inventories are included as Appendix B. Newly generated waste is waste that was generated in FY97 and became covered waste in FY98. LANL anticipates that almost no new covered waste will be placed in storage during the next five fiscal years. The only covered waste that will be placed into storage within the next five years is waste that has no disposal path.

Table 2.1-2. FY98 MLLW Inventory Detailed Update by Treatability Group.

3.1.1	LA-W901 IPA Wastes	0.00	0.00			0.00	0.00
3.1.1	LA-W902 Scintillation Fluids	0.00	0.00			0.00	0.00
3.1.2	LA-W903 Lead Blankets	0.00	0.00			0.00	0.00
3.1.2	LA-W904 Soil with Heavy Metals	0.55*	0.45			0.45	0.00
3.1.2	LA-W905 ER Soils	0.00	0.00			0.00	0.00
3.1.3	LA-W906 Aqueous Organic Liquids	15.70	16.06	(2.91) (3.92) 0.02 0.001	Shipped off-site for treatment Shipped off-site for treatment Newly generated Administrative adjustments	9.25	0.00

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3.1.4	LA-W911 Organic-Contaminated Combustible Solids	35.39	36.07	(3.54) (0.0001) 0.64 0.12	Shipped off-site for treatment Shipped off-site for treatment Newly generated Administrative adjustments	33.29	0.00
3.1.4	LA-W919 Organic-Contaminated Noncombustible Solids	26.93	27.31	(6.45) 1.59	Shipped off-site for treatment Newly generated	22.45	0.00
3.1.5	LA-W912 Combustible Debris	14.42	15.17	(0.00005)	Shipped off-site for treatment	15.17	0.00
3.1.5	LA-W921 Activated or Inseparable Lead	7.10	7.30	(0.21)** (0.32) 0.11	On-site Lead Decon Transferred to LA-W910 Administrative adjustments	6.88	0.00
3.1.5	LA-W922 Noncombustible Debris	33.63	36.46	(2.02) (0.008) 5.40 0.63	Treatability Study Treatability Study Newly generated Administrative adjustments	40.46	0.00
3.1.6	LA-W913 Aqueous Wastes with Heavy Metals	2.67	3.07	(0.004) 1.33	Shipped off-site for treatment Newly generated	4.40	0.00
3.1.6	LA-W914 Corrosive Solutions	0.85	1.21	(0.00003) 0.01 0.006	Treatability Study Newly generated Administrative adjustments	1.23	0.00
3.1.6	LA-W915 Aqueous Cyanides, Nitrates, Chromates, and Arsenates	0.17	0.17	(0.14) 0.91	Treatability Study Newly generated	0.94	0.00
3.1.7	LA-W916 Water-Reactive Wastes	6.74	7.05	(5.70) (0.22) 0.05 0.42 (0.11)	Shipped off-site for treatment Shipped off-site for treatment Newly generated Administrative adjustments Transferred to LA-W908	1.49	0.00
3.1.8	LA-W917 Compressed Gases Requiring Scrubbing	0.35	0.63	(0.28)	Treatability Study	0.35	0.00
3.1.9	LA-W918 Compressed Gases Requiring Oxidation	0.09	1.78	(0.05) 0.006	Treatability Study Administrative adjustments	1.74	0.00
3.1.10	LA-W920 Elemental Mercury	0.64	0.66	(0.02) 0.002	Treatability Study Newly generated	0.64	0.00
3.1.11	LA-W907 Halogenated Organic Liquids	17.21	18.30	(4.97) (6.94) 0.02 0.21	Shipped off-site for treatment Shipped off-site for treatment Newly generated Administrative adjustments	6.62	0.00
3.1.11	LA-W908 Nonhalogenated Organic Liquids	16.82	20.22	(1.87) (1.65) (0.71) (0.001) 0.41 0.06 (0.01) 0.11	Shipped off-site for treatment Shipped off-site for treatment Shipped off-site for treatment Treatability Study Newly generated Administrative adjustments Transferred to missing Transferred from LA-W916	16.56	0.00
3.1.11	LA-W909 Bulk Oils	4.33	5.81	(1.08) 0.42	Shipped off-site for treatment Newly generated	5.15	0.00
3.1.11	LA-W910 PCB Wastes with RCRA Components	2.75	2.75	0.10 0.32 0.02	Newly generated Transferred from LA-W921 Transferred from LA-W924	3.19	20.00
3.1.11	LA-W923 Liquid and Solid Oxidizers	1.23	1.37	(0.001)	Shipped off-site for treatment	1.37	0.00

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3.2	LA-W924 Lead Wastes - TBD	40.16	40.16	(2.5) (10.54) (5.52) (0.003) (2.82) 0.10 (0.02)	Shipped off-site for treatment Shipped off-site for treatment Off-site Recycle On-site Decon Transferred to missing Administrative adjustments Transferred to LA-W910	18.86	0.00
3.2	LA-W925 Mercury Wastes - TBD	20.49	20.91	(14.49)	Shipped off-site for treatment	6.42	0.00
3.2	LA-W926 Compressed Gases - TBD	1.25	1.25	(1.06)	Treatability Study	0.19	0.00
3.2	LA-W927 Biochemical Laboratory Wastes	1.34	1.34			1.34	0.00
3.2	LA-W928 Dewatered Treatment Sludge	12.71	12.71			12.71	0.00
3.2	LA-W932 Explosives	0.00	0.000001			0.000001	0.00
3.2	LA-W933 Lab Packs	0.13	0.30	(0.001) 0.009	Treatability Study Administrative adjustment	0.31	0.00
3.3.1	LA-W930 Lead for Surface Decontamination	69.38	61.14	(4.99) (6.66) (0.68) (0.09) (2.08) (4.58) (4.25)	Off-site Recycle Off-site Recycle On-site Decon On-site Decon On-site Decon On-site Decon	37.81	0.00
3.3.3	LA-W931 Lead Requiring Sorting	1.06	1.08			1.08	0.00
3.4	Missing/ nonexistent/ TBV category	0.00	8.81	0.01 2.82	Transferred from LA-W908 Transferred from LA-W924	11.64	Not Applicable

*Volume was reported incorrectly as 0.00 cubic meters in FY97 Annual Update.

**Item was successfully decontaminated on 8/23/95 in the on-site decontamination operation, but was not previously reported.

2.2 MIXED TRANSURANIC INVENTORY SUMMARY

A review of MTRU waste volumes in previous STP annual updates indicates that LANL over-estimated the volumes of MTRU waste in storage for FY96 and FY97. This determination is based on the most current MTRU waste characterization documentation, Waste Profile Forms (WPFs) and guidance documentation received from the Laboratory's environmental regulatory compliance group.

Since 1992 LANL has been using the Waste Profile Form (WPF) to document characterization information for all newly generated waste. Documentation by the generator for waste generated prior to 1992 (pre-WPF) was limited to a generic description of the waste and included a list of radiological contaminants. The Federal Facilities Compliance Act (FFCA) required that LANL perform Resource Conservation and Recovery Act (RCRA) determinations based on the best available information. Up until 1996, LANL's waste management group labeled and tracked pre-WPF transuranic (TRU) based on information contained in a study conducted by LANL's regulatory compliance group, which conservatively applied RCRA codes, to meet these requirements of the FFCA. In FY'96, the waste management group began including in its database RCRA characterization information provided by LANL's Transuranic Waste Characterization Sampling Plan for pre-WPF TRU waste. This decision was based on the belief

that strategies for characterizing waste would provide useful information for waste management purposes.

In accordance with its purpose, the Sampling Plan actually describes methodologies for the identification and description of TRU waste streams, a description of acceptable knowledge to be used in TRU waste characterization activities, and characterization strategies for newly generated waste. It does not provide waste characterization data per se. In 1998, an evaluation of the usefulness of basing waste management database entry decisions on methodologies described in the Sampling Plan was determined to be inappropriate, as such entries would be premature until actual characterization under the Sampling Plan is completed. And so the decision was made to return to the pre-FY 96 practices for tracking RCRA characterization information on the TRU drums.

LANL will continue to manage all TRU waste presently stored in domes in the same fashion as it manages MTRU, the latter of which is managed to meet RCRA requirements. The Sampling Plan will be used to determine characterization requirements prior to shipment to WIPP and data collected as a result of the characterization activities described in the Sampling Plan will be utilized to update the TRU waste characterization data on the waste containers and in the database.

Table 2.2-1 below summarizes the covered MTRU inventories for FY95, FY96, FY97 and FY98.

Table 2.2-1: Covered MTRU Inventory Summary

Contribution	Volume (M3)
MTRU Inventory Reported in FY95	3,702.49
MTRU Inventory Reported in FY96	5,981.84
MTRU Inventory Reported in FY97	5,988.7
Reassigned MTRU Waste	(2,218.25)
New Covered MTRU Waste	15.86
Covered MTRU Inventory At End of FY98	3,786.31

The covered MTRU waste inventory at LANL is described by treatability group in Table 2.2-2 below. This table presents the volume of covered MTRU waste for each treatability group, along with an estimate of projected future generation levels for the next 5 fiscal years.

Table 2.2-2. FY98 Covered MTRU Inventory Detailed Update By Treatability Group

Waste Treatability Group	Waste Codes	Volume (kg)	Volume (kg)
Solidified Inorganic and Organic Solids	D006,D007,D008, D019,D021,D039, F001,F002,F003	1543.59	20.86
Metallic Waste	D004,D006,D007, D008,D009,D019, D040	1415.70	118.60
Glass Waste	D008,D009,D019, D040	.62	0.00
Non-Combustible Waste	D008	191.01	0.00
Combined Combustible and Non-Combustible Waste	D008,F001,F002	270.56	166.65
Combustible Waste	D007,D008,D019, D040,F001,F002, U080	197.60	76.90
Organic Liquid*	D002,D003,D006,D008,D019,D022,F002,F003,F005	0.26	0.00
Cemented Process Sludge	D007,D008,D009, D019,F001,F002, F005	160.10	83.00
Leaded Glovebox Gloves	D008	6.86	2.10

* Stored at TA55

Calendar-Year versus Fiscal-Year Reporting for "Covered" Waste

Some inconsistencies in waste volumes reported here and in future STP Annual Updates will continue to exist because of the variations in reporting periods for the Annual Update versus other documents reporting mixed waste inventories published by the DOE (e.g., the Mixed Waste Inventory Report (MWIR) and the Transuranic Waste Baseline Inventory Report (BIR)). The STP Update requires reporting of "covered" waste. The volumes listed herein are for covered waste in storage as of the previous fiscal year (FY97). These volumes do not include waste that was newly generated in FY98, as this waste does not constitute "covered waste" under the FFCO.

3.0 TREATMENT PROGRESS

3.1 OFF-SITE TREATMENT

During FY98, covered mixed low level waste streams were shipped for treatment and disposal to off-site treatment facilities such as Diversified Scientific Services, Inc. (DSSI) in Tennessee, Envirocare of Utah, and for treatment at Waste Control Specialists (WCS) in Texas.

- **Diversified Scientific Services Inc. is a commercial facility located in Kingston, Tennessee that treats liquid mixed waste from DOE and commercial facilities. DSSI has a treatment system which includes an industrial boiler that combusts blended liquid mixed waste as fuel for steam production. The resultant steam is used to generate electricity. Complete combustion is promoted by injection of liquid waste into the boiler by a custom designed mechanical spray device. The combustion process ash is designated DSSI site generated waste. The ash is placed in containers and stabilized to meet the Land Disposal Restrictions (LDR) prior to disposal at an appropriately licensed and permitted disposal facility.**
- **Envirocare is a commercial facility located near Clive, Utah, that provides mixed waste treatment services for many types of characteristic and listed wastes that do not currently meet applicable treatment standards. Currently two treatment technologies are in full operation at the facility, chemical fixation/stabilization and macroencapsulation. Chemical fixation/stabilization technology reduces leachability of hazardous constituents by converting soluble species to insoluble species and/or binding them within a solid matrix. Macroencapsulation technology provides polyethylene encapsulation of elemental lead and mixed waste debris. These waste types cannot be treated by Chemical Fixation / Stabilization technology. Instead they are enveloped by a jacket of molten polyethylene which, after hardening, creates an impermeable barrier around the waste material. These blocks of treated waste material are then disposed in the mixed waste disposal cells.**
- **Waste Control Specialists (WCS) is a Pasadena, Texas-based environmental services firm that manages radioactive and hazardous waste. WCS operates a facility in Andrews County, Texas, that has received permits for the treatment, storage, and disposal of radioactive, hazardous and toxic waste. WCS can perform stabilization of waste forms for the purpose of meeting Land Disposal Restriction treatment standards. WCS may also conduct waste compaction, consolidation, and repackaging activities. A thermal treatment process (thermal desorber) is planned to be installed that will allow flexibility for the treatment of various mixed waste containing organics and other volatile hazardous materials. The current hazardous waste treatment capabilities include consolidation, repackaging, and stabilization for a wide variety of RCRA and Toxic Substances Control Act (TSCA) wastes. The TSCA permit allows the direct disposal of Polychlorinated Biphenyl (PCB) contaminated materials and/or treatment, if necessary.**

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Table 3.1 below is a summary of LANL's off-site shipments for treatment of covered MLLW in FY98. Four hundred and eighty seven items, with a total volume of 67.50 cubic meters were shipped off-site for treatment.

Table 3.1: FY98 STP MLLW Off-Site Shipments for Treatment

Date Shipped	Date Received	Letter Date to NMED	Destination	Waste	CPV Volume Treated (m ³)	Items	CPV Section
3/10/98	3/12/98	4/9/98	Envirocare	LA-W924 Lead wastes, TBD	2.5	44	3.3
3/19/98	3/23/98	4/24/98	DSSI	LA-W909 Bulk oils	1.08	7	3.2.1
3/19/98	3/23/98	4/24/98	DSSI	LA-W908 Non-halogenated organic liquids	1.87	9	3.2.1
3/19/98	3/23/98	4/24/98	DSSI	LA-W906 Aqueous organic liquids	2.91	14	3.1.3
3/20/98	3/23/98	4/28/98	Envirocare	LA-W924 Lead wastes, TBD	10.54	52	3.3
3/20/98	3/24/98	5/7/98	Envirocare	LA-W911 Organic contaminated combustible solids	3.54	17	3.1.4
3/20/98	3/24/98	5/7/98	Envirocare	LA-W919 Organic contaminated non-combustible solids	6.45	31	3.1.4
5/26/98	5/27/98	6/25/98	WCS	LA-W916 Water-reactive wastes	5.70	53	3.1.7
6/3/98	6/4/98	7/1/98	WCS	LA-W925 Mercury wastes, TBD	14.49	4	3.3
7/28/98	7/30/98	9/1/98	DSSI	LA-W906 Aqueous organic liquids	3.92	22	3.1.3

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Date Shipped	Date Received	Letter Date to NMED	Destination	Waste	CPV Volume Treated (m ³)	Items	CPV Section
8/31/98	9/2/98	10/9/98	DSSI	LA-W908 Non-halogenated organic liquids	1.65	35	3.2.1
8/31/98	9/2/98	10/9/98	DSSI	LA-W907 Halogenated organic liquids	4.97	77	3.2.1
8/31/98	9/2/98	10/9/98	DSSI	LA-W913 Aqueous wastes with heavy metals	0.004	1	3.1.6
9/22/98	9/25/98	10/23/98	DSSI	LA-W907 Halogenated organic liquids	6.94	50	3.2.1
9/22/98	9/25/98	10/23/98	DSSI	LA-W908 Non-halogenated organic liquids	.71	45	3.2.1
9/28/98	9/29/98	10/23/98	WCS	LA-W911 Organic-decontaminated combustible solids	0.0001	1	3.1.4
9/28/98	9/29/98	10/23/98	WCS	LA-W912 Combustible debris	.00005	1	3.1.5
9/28/98	9/29/98	10/23/98	WCS	LA-W916 Water reactives	0.22	23	3.1.7
9/28/98	9/29/98	10/23/98	WCS	LA-W923 Liquid and solid oxidizers	0.001	1	3.2.1

3.2 OFF-SITE RECYCLING

In FY98, DOE and UC utilized the GTS Duratek, Bear Creek Operations facility in Oak Ridge, Tennessee for recycling of lead and other metal items covered under the STP. GTS Duratek has a metals processing program which utilizes technology consisting of decontamination, melting, and surveying. GTS Duratek's decontamination technologies include chemical, abrasive grit/shot, sponge, and CO₂. Multiple shapes and metal types are treated for commercial recycling. For those metals that cannot be economically decontaminated to levels low enough for free release, metal melting processing is used. GTS Duratek operates a 20-ton, 72,000 kW electric-induction

furnace for melting and recycling radioactively contaminated metal. All metal is recycled into shield blocks and provided to various high-energy physics projects throughout the United States and Canada.

Sixty covered MLLW items, with a total volume of 17.17 cubic meters were sent off-site for recycling during FY98, as indicated below in Table 3.2

Table 3.2: FY98 STP MLLW Off-site Shipments for Recycling

Date Shipped	Shipment Received Date	Letter Date to NMED	Destination	Waste	CPV Volume Treated (m³)	Items	CPV Sec.
8/18/98	8/20/98	9/10/98	GTS Duratek, Bear Creek Operations	LA-W924 Lead wastes, TBD	5.52	4	3.3
9/16/98	9/21/98	10/15/98	GTS Duratek, Bear Creek Operations	LA-W930 Lead for Surface Decontamination	4.99	24	3.4.1
9/25/98	9/26/98	10/23/98	GTS Duratek, Bear Creek Operations	LA-W930 Lead for surface decontamination	6.66	32	3.4.1

3.3 ON-SITE TREATMENT

No LANL covered MLLW was treated on-site during FY98.

3.4 ON-SITE LEAD DECONTAMINATION

Table 3.4 below is a summary of LANL's covered MLLW that was decontaminated in the on-site lead decontamination trailer. Thirty eight items with a total volume of 11.68 cubic meters were shipped to the LANL on-site lead decontamination trailer in FY98.

Table 3.4: FY98 STP MLLW On-Site Lead Decontamination

Date Shipped	Shipment Received Date	Letter Date to NMED	Destination	Waste	CPV Volume Treated (m ³)	Items	CPV Sec.
10/28/97	N/A	N/A	On-site lead decontamination	LA-W930 Lead for surface decontamination	0.68	2	3.3.1
10/30/97	N/A	N/A	On-site lead decontamination	LA-W930 Lead for surface decontamination	0.09	2	3.3.1
1/6/98	N/A	N/A	On-site lead decontamination	LA-W924 Lead wastes, TBD	.003	1	3.2
1/6/98	N/A	N/A	On-site lead decontamination	LA-W930 Lead for surface decontamination	2.08	10	3.3.1
1/29/98	N/A	N/A	On-site lead decontamination	LA-W930 Lead for surface decontamination	4.58	22	3.3.1
2/5/98	N/A	N/A	On-site lead decontamination	LA-W930 Lead for surface decontamination	4.25	1	3.3.1

3.5 ON-SITE RECYCLING

No LANL covered MLLW was recycled on-site during FY98. Revision 7.0 of the CPV added the capability for on-site recycling/re-use as a parallel preferred option.

3.6 TREATABILITY STUDIES

Table 3.5 below is a summary of LANL's off-site shipments of covered MLLW for treatability studies in FY98. Sixty four items, with a total volume of 3.58 cubic meters were shipped for treatability studies in FY98.

Table 3.6: FY98 STP MLLW Off-site Shipments for Treatability Studies.

Date Shipped	Shipment Received Date	Letter Date to NMED	Destination	Waste Type	CPV Volume Treated (m ³)	Items	CPV Sec.
12/9/97	N/A	10/20/98	IT Corp.	LA-W917 Compressed gases requiring scrubbing	0.35 0.28*	13 10*	3.1.8
12/9/97	N/A	10/20/98	IT Corp.	LA-W918 Compressed gases requiring oxidation	0.08 0.05*	6 5*	3.1.9
12/9/97	N/A	10/20/98	IT Corp.	LA-W926 Compressed gases TBD	1.06	9	3.2
12/10/97	N/A	N/A	CMRI	LA-W920 Elemental Mercury	0.02	1	3.1.10
12/17/97	N/A	N/A	PermaFix	LA-W922 Noncombustible debris	2.02	8	3.1.5
6/16/98	6/19/98	5/28/98	Catholic University	LA-W914 Corrosive solutions	0.00003	1	3.1.6
6/16/98	6/19/98	5/28/98	Catholic University	LA-W915 Aqueous Cyanides, Nitrates, Chromates, and Arsenates	0.14	12	3.1.6
6/16/98	6/19/98	5/28/98	Catholic University	LA-W922 Noncombustible debris	0.008	15	3.1.5
6/16/98	6/19/98	5/28/98	Catholic University	LA-W933 Lab packs	0.001	2	3.3
7/30/98	8/7/98	7/1/98	Oak Ridge	LA-W908 Nonhalogenated Organic Liquids	0.001	1	3.1.6

*These differences are due to gas cylinders that were removed from the 12/9/97 shipment due to DOT issues. The remaining cylinders were shipped on November 5, 1998, as discussed in the letter from DOE to NMED dated October 20, 1998.

It is LANL's intent to continue to participate in treatability studies that provide valuable research data to the commercial and DOE mixed waste treatment industry.

LANL is continuing to pursue treatability studies, as follows:

- International Technology (IT) Corporation Development Laboratory and the Environmental Technology Development Center (ETDC), located near Knoxville, Tennessee, are licensed to conduct treatability studies on radioactive and mixed wastes. The ETDC has capabilities for pilot plant demonstrations and a broad radiological material license for the handling, analysis and treatment of mixed waste material. The facility is currently supporting multiple treatability studies.
- Catholic University in Washington D.C. performs treatability studies at its Vitreous State Laboratory, using a process known as vitrification. Four separate melters of various sizes and throughput times employ an electrical method of heating known as "Joule-Heating." Joule-heated melters produce an even distribution of heat across the liquid bath resulting in a uniform final waste glass form. Vitrification produces a final waste form that is stable, non-degradable, and chemically durable.
- LANL is planning to perform treatability studies to test a mercury polymer filtration process that has been developed on-site. This process has been developed for removing elemental and ionic forms of mercury from solid debris.

LANL will minimize generation of mixed waste during treatability studies as much as possible. If mixed waste is generated from a treatability study, LANL will manage such waste as a newly generated mixed waste as defined by the FFCO.

3.7 ADMINISTRATIVE ADJUSTMENTS

Administrative adjustments are due to discrepancies found during quality control activities related to preparing waste for treatment and disposal. These adjustments result in additions of newly found covered waste, transfers of waste to other treatability groups, or transfers of waste to the *missing/nonexistent/TBV* category of the STP.

3.8 OTHER TYPES OF MIXED WASTE ACTIVITIES

During FY98, efforts continued to characterize additional MLLW, some of which was covered waste under the FFCO/STP. This characterization included full RCRA and radiological characterization at an offsite analytical laboratory.

4.0 TREATMENT TECHNOLOGY DEVELOPMENT

During FY98, the availability of commercial and federal facility off-site treatment and disposal capacity for MLLW continued to increase, making onsite treatment technology development less crucial to the timely reduction of LANL's STP covered waste inventory. In CPV Revision 7.0, all activities and compliance dates related to the construction, permitting, and operation of on-site treatment skids were removed from the CPV. In general, DOE is pursuing development of mixed waste treatment facilities only when existing capabilities are unavailable or inadequate for DOE wastes from across the complex.

As a result of DOE's increasing reliance on commercial treatment/disposal for mixed wastes, nearly all funding for onsite technology development has been reprioritized to support off-site disposal of mixed wastes. DOE treatment technology development initiatives in the future will generally be limited to specific technologies or technology adaptations in response to specific needs that cannot be addressed through commercial facilities.

4.1 TREATMENT TECHNOLOGIES BEING EVALUATED

LANL continues to monitor the development of other potential treatment technologies that may become available in the future. Some of these technologies are being developed at LANL and at other DOE sites in the nuclear complex. Numerous other commercially developed treatment processes exist which have not been demonstrated on mixed wastes.

4.1.1 Off-Site Commercial Treatment Facilities

The following off-site commercial facilities are being evaluated:

- Perma-Fix of Gainesville, Florida is a RCRA permitted facility with a Radioactive Materials License for processing scintillation cocktail vials and other mixed waste fluids for blending and shipment to an energy recovery facility. Perma-Fix is also in the process of expanding their permit to include stabilization technologies.
- The British Nuclear Fuels Limited (BNFL) facility currently provides nuclear services, included fuel manufacture and spent fuel recycling, along with waste management and decommissioning services. The company is headquartered in Warrington, Cheshire, England and has operating sites in North West England and South West Scotland. BNFL is in the process of developing a variety of fully operational waste management plants, to deal with the full range of radioactive wastes. BNFL currently has the capability to treat high level waste and intermediate level waste by vitrification or encapsulation at its Sellafield, England plant.

4.1.2 Off-Site DOE Treatment Facilities

LANL will continue to evaluate off-site DOE-operated treatment facilities for their appropriateness to treat LANL STP waste.

- **Oak Ridge Toxic Substance Control Act (TSCA) Incinerator**

The TSCA incinerator began operation in 1990 treating liquid wastes contaminated with organic compounds regulated under RCRA and/or TSCA and radionuclides regulated under the Atomic Energy Act. In FY97, LANL submitted an application to Oak Ridge for accessing the incinerator for STP covered PCB wastes (LA-W910). The approval of the application is still pending.

- **Consolidated Incineration Facility (CIF)**

The Consolidated Incineration Facility at the Savannah River Site is being evaluated for treating certain liquid organic waste streams at LANL. At the present time, the CIF is not permitted to accept waste regulated under RCRA from facilities outside the State of South Carolina.

- **Advanced Mixed Waste Treatment Project (AMWTP)**

The Advanced Mixed Waste Treatment Project is located at the DOE Idaho National Engineering and Environmental Laboratory (INEEL). A contract was awarded to British Nuclear Fuels Limited, Inc. (BNFL), on December 20, 1996, for the treatment and supporting services for 65,000 cubic meters of alpha and TRU mixed waste. The contract has an option for treatment of up to 120,000 cubic meters of additional INEEL and DOE mixed wastes. The project scope is to treat INEEL alpha and TRU mixed waste, as well as other DOE mixed wastes in the DOE complex. The AMWTP is expected to include controlled air incineration, waste vitrification, high force compaction, macroencapsulation, and mercury amalgamation.

5.0 DOE FUNDING FOR STP-RELATED ACTIVITIES

Funding to implement the LANL Site Treatment Plan for mixed waste during FY98 was sufficient to meet all compliance dates as required by the STP issued on October 4, 1995. As stated in the FY97 Annual Update to the STP, funding is no longer available for development of mobile treatment units at LANL, but funding was provided during FY98 for shipment of mixed waste offsite for treatment and disposal at DOE and commercial facilities. Funding during FY99 is also sufficient to meet all compliance dates established in the STP for FY99, and projected funding for FY00 should again allow all compliance dates in the STP to be met during FY00. Should funding reductions occur that would affect STP compliance dates, the DOE and University of California (UC) will so notify the NMED to address compliance schedules and activities.

The DOE Assistant Secretary for Environmental Management (EM) has initiated a long-range plan for its cleanup and waste management activities, with a goal of accelerating clean-up progress as much as possible before 2006. (See (<http://www.em.doe.gov/closure/>)). The plan, now called *Accelerating Cleanup: Paths to Closure*, includes sections for the LANL site that address MLLW and TRU wastes that are currently in storage (legacy waste), as well as those projected to be generated (newly-generated waste) through 2070. Current funding targets for waste management in the draft *LANL Accelerating Cleanup: Paths to Closure* plan should allow LANL to continue to meet all compliance dates in the STP, but assume that MTRU waste is not required to be treated to meet Land Disposal Restrictions (LDR) before shipment to WIPP for disposal, as provided for in the WIPP Land Withdrawal Act Amendments.

Beginning in FY99, all newly generated MLLW is planned to be treated and disposed within one year. All MLLW placed into storage before FY99 is planned to be treated and disposed before the end of FY03.

Beginning in FY99, newly-generated Mixed TRU (MTRU) waste that does not require repackaging to achieve thermal wattage limits for transportation is planned to be shipped for disposal at WIPP within one year of generation (assuming that the WIPP site opens as scheduled and has received its hazardous waste permit from the NMED).

All MTRU waste placed into storage before FY99 is planned to be repackaged if needed to meet thermal wattage limits for transportation, characterized, certified to meet WIPP Waste Acceptance Criteria, and shipped to the WIPP for disposal before the end of FY15. Current funding levels in the draft LANL Accelerating Cleanup, Paths to Closure plan assume that MTRU waste is not required to be treated to meet LDR before shipment to WIPP for disposal.

6.0 TREATMENT VARIANCES

The RCRA allows certain case-by-case variances from LDR standards. Variances that may be sought under the RCRA relate to requests for substitution of an alternative treatment technology in place of the LDR-required treatment technology. This section discusses any potential treatment variances related to LANL's covered waste, as described below.

6.1 WIPP NO-MIGRATION VARIANCE PETITION

The WIPP is a DOE facility being developed near Carlsbad, New Mexico, as a planned repository for all TRU waste that was generated by the nation's defense-related activities. Some of the TRU waste contains hazardous waste constituents regulated under the RCRA.

The WIPP repository is considered to be a deep geologic repository rather than a shallow landfill. It is wholly sited 2,100 ft below the land surface in a salt bed. Because salt has the advantageous characteristic of slow plastic deformation, it is predicted that the salt will entomb the waste and seal it from the human environment, making potential release of hazardous constituents a low-probability event.

The DOE Carlsbad Area Office (DOE/CAO) submitted a draft No-Migration Variance Petition to the Environmental Protection Agency (EPA) in May 1995. The EPA reviewed the draft and submitted informal comments to the DOE/CAO on January 23, 1996. The DOE/CAO submitted the final No-Migration Variance Petition to the EPA in June 1996.

As a result of the Land Withdrawal Act Amendments of 1996 (LWAA) (PL 104-201, Section 3188) EPA has terminated its review of the No-Migration Variance Petition (NMVP), and the NMVP requirement has been removed. In a letter to George Dials, DOE/CAO Manager, dated December 29, 1997, EPA stated that the LWAA exempts waste designated by the Secretary of Energy for disposal at WIPP from RCRA's LDRs.

On October 29, 1996, DOE submitted its Compliance Certification Application (CCA) to EPA. The CCA is intended to demonstrate to EPA that WIPP meets the requirements of 40 CFR 191 and 40 CFR 194. On October 23, 1997, EPA announced its proposed decision to issue a certification of compliance, subject to a number of specified conditions and to a public comment period of 120 days. On May 18, 1998, EPA published in the Federal Register (63 FR 27354) its final rule certifying that WIPP will comply with the requirements of Subparts B and C of 40 CFR

Part 191 and amending the WIPP compliance criteria in 40 CFR Part 194. The final rule became effective June 17, 1998.

6.2 OTHER TREATMENT VARIANCE (S)

No treatment variances were requested or granted in FY98.

7.0 WIPP FACILITY CAPABILITIES

As discussed above, the DOE is planning to dispose of its defense TRU waste, both mixed and nonhazardous, in its deep geologic depository at the WIPP near Carlsbad, New Mexico. This facility is planned to be a receiving and disposal facility, without the capability of routinely opening and repackaging waste. TRU waste will already be characterized, certified and in appropriate containers when received at the WIPP facility. The WIPP facility is not a generator of TRU waste, and therefore will receive all of the waste in shipments from off-site.

7.1 CHARACTERIZATION CAPABILITIES AT WIPP

No capabilities for characterization of TRU waste, or hazardous waste constituents regulated by the RCRA were developed or are planned to be developed at the WIPP facility.

7.2 MTRU TREATMENT CAPABILITIES AND PLANS

The decision on the No Migration Variance Petition determined that requirements to establish treatment of MTRU to meet LDR standards were not required and are not planned to be developed at the WIPP facility. As described above, the LWAA exempted wastes designated by the Secretary of Energy for disposal at the WIPP from this requirement.

References

1. *"Federal Facility Compliance Order (Los Alamos National Laboratory)"* New Mexico Environment Department (October 4, 1995)
2. *"Hazardous Waste Report for Los Alamos National Laboratory"* Volumes I and II, ESH-19, Los Alamos National Laboratory (February 1996)
3. *"Transuranic Waste Baseline Inventory Report Revision 3"*, US Department of Energy, Carlsbad Area Office (December 1995)
4. *"AL Mixed Waste Treatment Plan"*, Los Alamos National Laboratory (March 1994)
5. *"Federal Facility Compliance Act"* 1992, HR.2194 Eckart, (Pub. L. 102-386, approved 10/06/92)
6. Congress, 1996. Text of Public Law 104-201, Congressional Record dated September 23, 1996, Amendment to Public Law 102-579, *1992 Waste Isolation Pilot Plant Land Withdrawal Act (106 Stat. 4777)*
7. *"Los Alamos National Laboratory Federal Facility Compliance Order Annual Site Treatment Plan Update for Fiscal Year 1995"* (March 31, 1996)
8. 40 CFR Part 194, Criteria for the Certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations: Certification Decision; Proposed Rule" (Federal Register V.62, No. 210, Oct. 30 1997, pp. 58792-58838)
9. *"Notification of Off-Site Waste Shipment for Treatability Study, Site Treatment Plan (STP), Los Alamos National Laboratory, J. Plum, LAAO to J. Archuleta, NMED (October 20, 1998).*

Appendix A
Reported STP MLLW Inventories 1995-1996

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Appendix A – Reported Inventories, 1995 – 1996 (from Table 2-1, LANL FY96 Annual Update)

CPV Sec.	MWIR Waste ID and Treatability Group	CPV Vol. (m ³)	FY95 Changes Covered Waste (m ³) ^a	Explanation for FY95 Change	Covered Vol. End of FY95 (m ³)	FY96 Changes Covered Waste (m ³) ^b	Comments	Covered Vol. End of FY96 (m ³)	Projection FY97-FY01 (m ³)
3.1.1	LA-W901 IPA Wastes	15.89	NC		15.89	Increased 4.07 ^d Decreased 19.98	Waste volume incorrectly reported in original STP inventory Shipped off-site for treatment at commercial or DOE facilities during FY96	0.02	0.0
3.1.1	LA-W902 Scintillation Fluids	2.47	Decreased 2.24	Commercially treated in FY95	0.23	Increased 0.13 ^d Decreased 0.36 ^d	Waste volume incorrectly reported in original STP inventory Shipped off-site for treatment at commercial or DOE facilities during FY96	0.0038 ^d	0.0
3.1.2	LA-W903 Lead Blankets	0.74	NC		0.74	Decreased 0.74	Shipped off-site for treatment at commercial facility during FY96	0.00	0.0
3.1.2	LA-W904 Soil with Heavy Metals	10.53	NC		10.53	Increased 0.11	Waste that was newly generated in FY95 that became covered waste in FY96	10.64	0.5
3.1.2	LA-W905 ER Soils	39.32	NC		39.32	Decreased 39.32	Shipped off-site for treatment or disposal at commercial facility during FY96	0.00	0.0
3.1.3	LA-W906 Aqueous Organic Liquids	1.65	Increased 0.43	Inadvertently omitted from STP	2.08	Increased 3.62	Waste that was newly generated in FY95 that became covered waste in FY96	5.70	18.1
3.1.4	LA-W911 Organic-Contaminated Combustible Solids	28.32	Decreased 0.11 Increased 0.17	Treated in treatability study in FY95 Inadvertently omitted from STP	28.38	Increased 5.24 Decreased 0.11	Waste that was newly generated in FY95 that became covered waste in FY96 Shipped for treatment in on-site treatability study during FY96	33.51	26.2
3.1.4	LA-W919 Organic-Contaminated Noncombustible Solids	7.82	Decreased 0.11 Increased 0.001	Treated in treatability study in FY95 Inadvertently omitted from STP	7.71	Increased 9.58	Waste that was newly generated in FY95 that became covered waste in FY96	17.29	47.9
3.1.5	LA-W912 Combustible Debris	13.82	NC		13.82	Increased 0.28	Waste that was newly generated in FY95 that became covered waste in FY96	14.10	1.4
3.1.5	LA-W921 Activated or Inseparable Lead	15.60	Decreased 7.42 Increased 10.11	Decontaminated and released in FY95 Received from LD200 effort	18.29	Increased 2.29 Decreased 12.45	Waste that was newly generated in FY95 that became covered waste in FY96 Shipped for off-site treatment at commercial facility during FY96	8.13	11.5

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CPV Sec.	MWIR Waste ID and Treatability Group	CPV Vol. (m ³)	FY95 Changes Covered Waste (m ³) ^a	Explanation for FY95 Change	Covered Vol. End of FY95 (m ³)	FY96 Changes Covered Waste (m ³) ^b	Comments	Covered Vol. End of FY96 (m ³)	Projection FY97-FY01 (m ³)
3.1.5	LA-W922 Noncombustible Debris	5.62	Decreased 0.0002 Increased 1.25	Treated in treatability study in FY95 Inadvertently omitted from STP	6.87	Increased 21.04	Waste that was newly generated in FY95 that became covered waste in FY96	27.91	105.2
3.1.6	LA-W913 Aqueous Wastes with Heavy Metals	1.85	NC		1.85	Increased 0.15 Decreased 0.030 Decreased 0.32	Waste that was newly generated in FY95 that became covered waste in FY96 Shipped for treatment in on-site treatability study during FY95 Shipped for treatment in on-site treatability study during FY96	1.65	0.8
3.1.6	LA-W914 Corrosive Solutions	1.36	Increased 0.04	Inadvertently omitted from STP	1.40	Increased 0.08 Decreased 0.67	Waste that was newly generated in FY95 that became covered waste in FY96 Shipped for treatment in on-site treatability study during FY96	0.81	0.4
3.1.6	LA-W915 Aqueous Cyanides, Nitrates, Chromates, and Arsenates	0.13	Decreased 0.0003 Increased 0.02	Treated in treatability study in FY95 Inadvertently omitted from STP	0.15	Increased 0.02 Decreased 0.0002 Decreased 0.0031	Waste that was newly generated in FY95 that became covered waste in FY96 Shipped for treatment in on-site treatability study during FY95 Shipped for treatment in on-site treatability study during FY96	0.17	0.1
3.1.7	LA-W916 Water-Reactive Wastes	6.03	Increased 0.02	Inadvertently omitted from STP	6.05	Increased 0.01	Waste that was newly generated in FY95 that became covered waste in FY96	6.06	0.05
3.1.8	LA-W917 Compressed Gases Requiring Scrubbing	0.35	NC		0.35	NC		0.35	0.0
3.1.9	LA-W918 Compressed Gases Requiring Oxidation	0.08	NC		0.08	Increased 0.01	Waste that was newly generated in FY95 that became covered waste in FY96	0.09	0.0
3.1.10	LA-W920 Elemental Mercury	0.50	NC		0.50	Increased 0.02	Waste that was newly generated in FY95 that became covered waste in FY96	0.52	0.1
3.2.1	LA-W907 Halogenated Organic Liquids	16.58	Increased 0.04	Inadvertently omitted from STP	16.62	Increased 0.45 Decreased 0.0025	Waste that was newly generated in FY95 that became covered waste in FY96 Shipped for treatment in on-site treatability study during FY96	17.07	2.3
3.2.1	LA-W908 Nonhalogenated Organic Liquids	14.34	Increased 0.08	Inadvertently omitted from STP	14.42	Increased 2.83	Waste that was newly generated in FY95 that became covered waste in FY96	17.25	14.2

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CPV Sec.	MWIR Waste ID and Treatability Group	CPV Vol. (m ³)	FY95 Changes Covered Waste (m ³) ^a	Explanation for FY95 Change	Covered Vol. End of FY95 (m ³)	FY96 Changes Covered Waste (m ³) ^b	Comments	Covered Vol. End of FY96 (m ³)	Projection FY97-FY01 (m ³)
3.2.1	LA-W909 Bulk Oils	3.75	NC		3.75	Increased 2.28	Waste that was newly generated in FY95 that became covered waste in FY96	6.03	11.4
3.2.1	LA-W923 Inorganic Solid Oxidizers	0.20	Increased 0.32	Inadvertently omitted from STP	0.52	Decreased 0.087	Shipped for treatment in off-site treatability study during FY96	0.43	0.2
3.3	LA-W924 Lead Wastes - TBD	51.44	Decreased 11.28	Decontaminated and released in FY95	40.16	NC		40.16	0.0
3.3	LA-W925 Mercury Wastes - TBD	18.30	NC		18.30	Increased 1.52	Waste that was newly generated in FY95 that became covered waste in FY96	19.82	7.6
3.3	LA-W926 Compressed Gases - TBD	1.25	NC		1.25	NC		1.25	0.0
3.3	LA-W927 Biochemical Laboratory Wastes	1.34	NC		1.34	NC		1.34	0.0
3.3	LA-W928 Dewatered Treatment Sludge	268.17	NC		268.17	NC		268.17	0.0
3.4.1	LA-W930 Lead for Surface Decontamination	56.20	Decreased 14.64 Increased 22.50	Decontaminated and released in FY95 Received from LD200 effort	64.06	Increased 1.25	Waste that was newly generated in FY95 that became covered waste in FY96	65.31	6.3
3.4.2	LA-W929 Nonradioactive or Suspect Waste Items to be Surveyed	14.24	Decreased 0.002 Increased 0.00002	Decontaminated and released in FY95 Inadvertently omitted from STP	14.24	Decreased 0.00094 Decreased 0.0029	Shipped for treatment in on-site treatability study during FY95 Shipped for treatment in on-site treatability study during FY96	14.24	0.0
None ^d	LA-W931 Lead Requiring Sorting	9.97	Decreased 4.58 Increased 5.73	Decontaminated and released in FY95 Received from LD200 effort	11.12	Increased 0.44 Decreased 6.36	Waste that was newly generated in FY95 that became covered waste in FY96 Shipped for off-site treatment at commercial facility during FY96	5.20	2.2
None ^d	LA-W932 Explosives	0.0	NC			NC		0.0	0.0
None ^d	LA-W933 Lab Packs	0.0	NC			Increased 0.13	Waste that was newly generated in FY95 that became covered waste in FY96	0.13	0.8

Appendix B
Reported STP MLLW Inventories 1997

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Table 2-1. FY97 MLLW Inventory Update Summary^a

Waste ID and Responsibility Group Category	FY97 Annual Update Volume (m ³)	FY97 Changes in Inventory Volume		Comments	FY97 Annual Update Volume (m ³)	FY96 Inventory Volume (m ³)
		Revised (m ³)	Change (m ³)			
3.1.1 LA-W901 IPA Wastes	0.02	Decreased 0.005 ^{e,m}	Decreased 0.02	Shipped off-site for treatment at commercial facility during FY97	0.00	0.0
3.1.1 LA-W902 Scintillation Fluids	0.0038 ^d		Decreased 0.0038	Shipped off-site for treatment at commercial facility during FY97	0.00	0.0
3.1.2 LA-W903 Lead Blankets	0.00				0.00	0.0
3.1.2 LA-W904 Soil with Heavy Metals	10.64	Decreased 0.2082 ^{e,m} 0.1047 ⁿ	Decreased 0.62	Transferred to LA-W910 (approved by NMED 9/18/97)	0.55	0.00
			Decreased 0.42	Transferred to LA-W911 (approved by NMED 9/18/97)		
			Decreased 8.91	Shipped off-site for treatment at commercial or DOE facilities during FY97		
			Decreased 0.14	Shipped off-site for treatment at commercial or DOE facilities during FY97		
3.1.2 LA-W905 ER Soils	0.00				0.00	0.0
3.1.3 LA-W906 Aqueous Organic Liquids	5.70	Increased 0.0005 ^{e,m} Increased 4.83 ^f 4.26 ^{f,n}	Increased 5.74	Waste that was newly generated in FY96 that became covered waste in FY97	15.70	50.0

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Code	Waste ID and Treatability or Group Category	Total Volume (m ³)	FY97 Changes in Covered Waste		Description	FY97 Volume (m ³)	FY98 Volume (m ³)
			Volume Change (m ³)	Volume Change (m ³)			
3.1.4	LA-W911 Organic-Contaminated Combustible Solids	33.51	Increased 1.46 ^f	Increased 0.0038 Increased 0.42	Waste that was newly generated in FY96 that became covered waste in FY97 Transferred from LA-W904 (approved by NMED 9/18/97)	35.39	7.3
3.1.4	LA-W919 Organic-Contaminated Noncombustible Solids	17.29	Increased 0.95 ^f	Increased 8.58 Increased 0.11	Waste that was newly generated in FY96 that became covered waste in FY97 Unused Treatability Study sample returned from off-site facility in FY97	26.93	47.6
3.1.5	LA-W912 Combustible Debris	14.10		Increased 0.32	Waste that was newly generated in FY96 that became covered waste in FY97	14.42	1.6
3.1.5	LA-W921 Activated or Inseparable Lead	8.13		Increased 1.58 Decreased 0.89 Decreased 1.72	Waste that was newly generated in FY96 that became covered waste in FY97 Shipped for off-site treatment at commercial facility during FY97 Shipped off-site for recycle at commercial facility in FY97	7.10	7.9
3.1.5	LA-W922 Noncombustible Debris	27.91		Increased 9.25 Decreased 2.915 Decreased 0.62	Waste that was newly generated in FY96 that became covered waste in FY97 Shipped for off-site treatment at commercial facility during FY97 Shipped for off-site treatment at commercial facility during FY97	33.63	46.2
3.1.6	LA-W913 Aqueous Wastes with Heavy Metals	1.65		Increased 1.02	Waste that was newly generated in FY96 that became covered waste in FY97	2.67	5.1
3.1.6	LA-W914 Corrosive Solutions	0.81		Increased 0.04	Waste that was newly generated in FY96 that became covered waste in FY97	0.85	0.2
3.1.6	LA-W915 Aqueous Cyanides, Nitrates, Chromates, and Arsenates	0.17				0.17	0.0

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CITY	Waste ID and Description Group Category	FY97 Volume (cu yd)	FY97 Changes in Covered Waste		Description of Change	FY97 Volume (cu yd)	FY98 Volume (cu yd)
			Increased (cu yd)	Decreased (cu yd)			
3.1.7	LA-W916 Water-Reactive Wastes	6.06	Increased 0.68		Waste that was newly generated in FY96 that became covered waste in FY97	6.74	3.4
3.1.8	LA-W917 Compressed Gases Requiring Scrubbing	0.35				0.35	0.0
3.1.9	LA-W918 Compressed Gases Requiring Oxidation	0.09	Increased 0.0002		Waste that was newly generated in FY96 that became covered waste in FY97	0.09	0.001
3.1.10	LA-W920 Elemental Mercury	0.52	Increased 0.12		Waste that was newly generated in FY96 that became covered waste in FY97	0.64	0.6
3.2.1	LA-W907 Halogenated Organic Liquids	17.07	Increased 0.15 Decreased 0.0076		Waste that was newly generated in FY96 that became covered waste in FY97 Shipped for off-site treatment at commercial facility during FY97	17.21	0.8
3.2.1	LA-W908 Nonhalogenated Organic Liquids	17.25	Increased 0.09 Increased 0.076 Decreased 0.49 Decreased 0.11		Waste that was newly generated in FY96 that became covered waste in FY97 Correction to volume reported in original STP inventory which was in error Shipped for off-site treatment at commercial facility during FY97 Correction to volume reported in original STP inventory which was in error	16.82	0.4

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City Sec.	MWR Waste ID or Treatability Group/Category	FY97 Annual Volume (m)	FY97 Changes in Covered Waste		Comments	FY97 Annual Volume (m)	FY98 Annual Volume (m)
			Revised (Other Changes) (m)	Remaining FY97 Annual Volume Changes (m)			
3.2.1	LA-W909 Bulk Oils	6.03		Increased 0.05 Increased 0.47 Decreased 2.22	Waste that was newly generated in FY96 that became covered waste in FY97 Correction to volume reported in original STP inventory which was in error Shipped for off-site treatment at commercial facility during FY97	4.33	0.2
3.2.1	LA-W910 PCB Wastes with RCRA Components	0.74		Increased 1.39 Increased 0.62	Waste that was newly generated in FY96 that became covered waste in FY97 Transferred from LA-W904 (Approved by NMED 9/18/97)	2.75	0.4
3.2.1	LA-W923 Liquid and Solid Oxidizers	0.43		Increased 0.795	Waste that was newly generated in FY96 that became covered waste in FY97	1.23	4.0
3.3	LA-W924 Lead Wastes - TBD	40.16				40.16	0.0
3.3	LA-W925 Mercury Wastes - TBD	19.82		Increased 0.67	Waste that was newly generated in FY96 that became covered waste in FY97	20.49	3.4
3.3	LA-W926 Compressed Gases - TBD	1.25				1.25	0.0
3.3	LA-W927 Biochemical Laboratory Wastes	1.34				1.34	0.0
3.3	LA-W928 Dewatered Treatment Sludge	268.17		Decreased 255.46	Approved by NMED 9/18/97 as Rev. 2.0 to the STP	12.71	0.0

FY98 Annual STP Update DRAFT
Background Volume
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City/Sec	MWRD Waste ID and Treatment Group/Category	FY97 Annual Inventory Volume (m ³)	FY97 Changes in Covered Waste		Comments	FY97 Annual Inventory Volume (m ³)	FY98 Annual Inventory Volume (m ³)
			Inventory (Out Changes) (m ³)	Inventory (In Changes) (m ³)			
3.4.1	LA-W930 Lead for Surface Decontamination	65.31	Decreased 8.34 ^{f,m}	Increased 12.06 Decreased 0.32 Decreased 0.97 Decreased 1.04 Decreased 5.66	Waste that was newly generated in FY96 that became covered waste in FY97 Shipped for decontamination and recycle at on-site facility in F Y97 Shipped for decontamination and recycle at on-site facility in F Y97 Shipped for decontamination and recycle at on-site facility in F Y97 Shipped for decontamination and recycle at on-site facility in F Y97	69.38	60.3
3.4.2	LA-W929 Nonradioactive or Suspect Waste Items to be Surveyed	14.24	Decreased 0.26 ^{h,m}	Decreased 0.0076	Shipped for off-site treatment at commercial facility during FY97	14.23	0.0
None ^d	LA-W931 Lead Requiring Sorting	5.20		Increased 0.64 Decreased 4.78 Increased 0.02	Waste that was newly generated in FY96 that became covered waste in FY97 Shipped for off-site treatment at commercial facility during FY97 Correction to Original STP Inventory as discussed in Revision 6.0	1.06	3.2
None ^d	LA-W932 Explosives	0.00				0.00	0.0
None ^d	LA-W933 Lab Packs	0.13		Increased 0.003	Waste that was newly generated in FY96 that became covered waste in FY97	0.13	0.02

FY98 Annual STP Update DRAFT
Background Volume
03/04/99

CRV Sec.	M/WF Waste ID and Treatability Group/Category	FY96 Annual Update Volume (m ³)	FY97 Changes in Covered Waste		Comments	FY97 Volume (m ³)	FY98 Volume (m ³)
			Revision 5 (Other Changes) (m ³)	Revision 6 (FY97 Annual Update Changes) (m ³)			
None	IPA Waste	0.00		Increased 0.0005 ^b Decreased 0.0005 ^b	Omitted from original STP inventory as discussed in Rev. 6.0 Shipped for off-site treatment at commercial facility during FY97	0.00	0.0
None ^l	Missing/ nonexistent/ TBV category	0.00	Increased 0.2082 ^d 0.1047 ^m ^a Increased 0.26 ^m Increased 8.34 ^m			0.00	Not Applicable

NOTES TO TABLE

- ^a The covered waste volumes reported in Appendix B of the proposed Revision 6.0 include the volume changes in Revisions 4.0 and 5.0, approved by NMED in FY98 (December 29, 1997). Therefore, the volume changes in Revision 4.0 and 5.0 are not reflected in the FY97 STP Annual Update and are not included in this table. Because of this, the volumes in this table cannot be compared to the volumes reported in Appendix B. Also refer to *Note to Reader* in Section 2.1.1.
- ^b These changes are the additional changes in FY 97 that were not previously reported in Rev. 5.0.
- ^c One item from treatability group LA-W901 (*IPA wastes*) transferred to LA-W906 (*Aqueous Organic Liquids*) treatability group in Rev. 5.0 (also see footnote m).
- ^d The final FY96 volume for most treatability groups is reported to two decimal places for consistency with the original STP inventory. The final FY96 LA-W902 volume is given as 0.0038m³ (i.e., reported to four decimal places) in order to accurately report the presence of one small-volume waste item in this treatability group remaining in the LANL inventory at the end of FY96. This item was shipped off-site on December 18, 1996.
- ^e Items of LA-W904 waste transferred to the category of *Missing/Nonexistent/TBV* in Rev. 5.0 (also see footnotes m and n).
- ^f These are wastes that were generated in FY96 and became covered waste in FY97; they were included in the Revision 5 request to facilitate expedited treatment and disposal of these wastes.
- ^g Items of LA-W930 waste transferred to the category of *Missing/Nonexistent/TBV* in Rev. 5.0 (also see footnote m).
- ^h Items of LA-W929 waste transferred to the category of *Missing/Nonexistent/TBV* in Rev. 5.0 (also see footnote m).
- ^l This treatability group (LA-W931, *Lead Requiring Sorting*) is not listed in the *Compliance Plan Volume*; however, it is discussed in section 3.4.3 of the *Background Volume*.

Appendix C
Reported STP MLLW Inventories 1998
(Through Revision 7.0)

FY98 Annual STP Update DRAFT
Background Volume
03/04/99

CPV Section	Treatability Group	MWIR ID (by subgroup)	Net Covered Waste Inventory by Subgroup (reported in Rev. 4/5)		Revision 6 (3/98 FY97 Annual Update Changes)		Revision 6 (Other Changes)		Revision 7		Subtotal (by subgroup)		Net Covered Waste Inventory (including Rev. 7 changes)	
			Items	Volume (m ³)	Items	Volume (m ³)	Items	Volume (m ³)	Items	Volume (m ³)	Items	Volume (m ³)	Items	Volume (m ³)
3.1.1	IPA Wastes	LA-W901-0	7	0.02	Decrease 7	Decrease 0.02					0	0.00	0	0.00
3.1.1	Scintillation Fluids	LA-W902-0	1	0.0038	Decrease 1	Decrease 0.0038					0	0.00	0	0.00
3.1.2	Lead Blankets	LA-W903-0	0	0.00							0	0.00	0	0.00
3.1.2	Soil with Heavy Metals	LA-W904-0	58	10.33 10.43 ^a	Decrease 6 Decrease 2 Decrease 46 Decrease 2	Decrease 0.62 ^b Decrease 0.42 ^c Decrease 8.91 Decrease 0.14					2	0.34	3	0.45
		LA-W904-5	1	0.11						1	0.11			
3.1.2	ER Soils	LA-W905-0	0	0.00							0	0.00	0	0.00
3.1.3	Aqueous Organic Liquids	LA-W906-0	45	1.65							45	1.65	261	16.06
		LA-W906-4	27	0.36							27	0.36		
		LA-W906-5	101	8.88 8.31 ^d							101	8.31		
		LA-W906-6	0	0.00	Increase 88	Increase 5.74					88	5.74		
3.1.4	Organic-Contaminated Combustible Solids	LA-W911-0	305	28.10	Increase 2	Increase 0.42 ^e					307	28.52		
		LA-W911-4	33	0.68							33	0.68		

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Background Volume
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CPV Section	Treatability Group	MWIR ID (by subgroup)	Net Covered Waste Inventory by Subgroup (reported in Rev. 4/5)		Revision 6 (3/98 FY97 Annual Update Changes)		Revision 6 (Other Changes)		Revision 7		Subtotal (by subgroup)		Net Covered Waste Inventory (including Rev. 7 changes)	
			Items	Volume (m ³)	Items	Volume (m ³)	Items	Volume (m ³)	Items	Volume (m ³)	Items	Volume (m ³)	Items	Volume (m ³)
			40	6.87							40	6.87		
		LA-W911-5												
		LA-W911-6	0	0.00	Increase 1	Increase 0.0038					1	0.0038		
		LA-W911-7	0	0.00					Increase 1	Increase 0.001	1	0.001	384	36.07
3.1.4	Organic-Contaminated Noncombustible Solids	LA-W919-0	79	7.71	Increase 1	Increase 0.11 ^e					80	7.82	227 231 234+2	27.31
		LA-W919-4	9	0.38							9	0.38		
		LA-W919-5	89	10.53							89	10.53		
		LA-W919-6	0	0.00	Increase 49	Increase 8.58					49	8.58		
		LA-W919-7	0	0.00					Increase 4	Increase 0.002	4	0.002		
3.1.5	Combustible Debris	LA-W912-0	83	13.82							83	13.82	403 105	15.17
		LA-W912-4	9	0.75							9	0.75		
		LA-W912-5	5	0.28							5	0.28		
		LA-W912-6	0	0.00	Increase 6	Increase 0.32					6	0.32		
		LA-W912-7	0	0.00					Increase 2	Increase 0.0004	2	0.0004		
3.1.5	Activated or Inseparable Lead	LA-W921-0	14	4.77	Decrease 1	Decrease 0.06 ^f			Increase 1	Increase 0.208	14	2.99	34-35	7.09 7.30
						Decrease 2	Decrease 1.72							
		LA-W921-5	18	3.35	Decrease 4	Decrease 0.83 ^f					14	2.52		
		LA-W921-6	0	0.00	Increase 9	Increase 1.58					9	1.58		

FY98 Annual STP Update DRAFT
Background Volume
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CPV Section	Treatability Group	MWIR ID (by subgroup)	Net Covered Waste Inventory by Subgroup (reported in Rev. 4/5)		Revision 6 (3/98 FY97 Annual Update Changes)		Revision 6 Other Changes		Revision 7		Subtotal (by subgroup)		Net Covered Waste Inventory (including Rev. 7 changes)	
			Items	Volume m ³	Items	Volume m ³	Items	Volume m ³	Items	Volume m ³	Items	Volume m ³	Items	Volume m ³
3.15	Non-combustible Debris	LA-W922-0	41	5.62	Decrease 14	Decrease 2.915					27	2.71	191	36.46
		LA-W922-4	53	2.83							53	2.83		
		LA-W922-5	63	22.29	Decrease 3	Decrease 0.62					60	21.67		
		LA-W922-6	0	0.00	Increase 51	Increase 9.25					51	9.25		
3.16	Aqueous Wastes with Heavy Metals	LA-W913-0	83	1.50							83	1.50	139	3.07
		LA-W913-4	25	0.40							25	0.40		
		LA-W913-5	11	0.15							11	0.15		
		LA-W913-6	0	0.00	Increase 20	Increase 1.02					20	1.02		
3.16	Corrosive Solutions	LA-W914-0	60	0.69							60	0.69	197	1.21
		LA-W914-4	90	0.36							90	0.36		
		LA-W914-5	39	0.12							39	0.12		
		LA-W914-6	0	0.00	Increase 8	Increase 0.04					8	0.04		
3.16	Aqueous Cyanides, Nitrates, Chromates, and Arsenates	LA-W915-0	9	0.13							9	0.13	23	0.17
		LA-W915-4	3	0.002							3	0.002		
		LA-W915-5	11	0.04							11	0.04		
3.17	Water-Reactive Wastes	LA-W916-0	78	6.03							78	6.03	113	7.05
		LA-W916-4	26	0.31							26	0.31		
		LA-W916-5	4	0.03							4	0.03		
		LA-W916-6	0	0.00	Increase 5	Increase 0.68					5	0.68		
3.18	Compressed Gases Requiring Scrubbing	LA-W917-0	13	0.35							13	0.35	43	0.35
		LA-W917-7	0	0.00					Increase 12	Increase 0.28	12	0.28		
													25	0.63

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Background Volume
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CPV Section	Treatability Group	MWIR ID (by subgroup)	Net Covered Waste Inventory by Subgroup (reported in Rev. 4/5)		Revision 6 (3/98 FY97 Annual Update Changes)		Revision 6 Other Changes		Revision 7		Subtotal (by subgroup)		Net Covered Waste Inventory (including Rev. 7 changes)	
			Items	Volume m ³	Items	Volume m ³	Items	Volume m ³	Items	Volume m ³	Items	Volume m ³	Items	Volume m ³
3.1.9	Compressed Gases Requiring Oxidation	LA-W918-0	6	0.08							6	0.08	177 192	1.32 1.78
		LA-W918-4	168	1.23							168	1.23		
		LA-W918-5	2	0.01							2	0.01		
		LA-W918-6	0	0.00	Increase 1	Increase 0.0002					1	0.0002		
		LA-W918-7	0	0.00					Increase 15	Increase 0.46	15	0.46		
3.1.10	Elemental Mercury	LA-W920-0	45	0.50							45	0.50	79	0.66
		LA-W920-4	20	0.02							20	0.02		
		LA-W920-5	9	0.02							9	0.02		
		LA-W920-6	0	0.00	Increase 5	Increase 0.12					5	0.12		
3.1.11	Halogenated Organic Liquids	LA-W907-0	384	16.58	Decrease 3	Decrease 0.0076					381	16.57	525 537	18.28 18.30
		LA-W907-4	97	1.05							97	1.05		
		LA-W907-5	31	0.49							31	0.49		
		LA-W907-6	0	0.00	Increase 16	Increase 0.15					16	0.15		
		LA-W907-7	0	0.00					Increase 12	Increase 0.04	12	0.04		

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Background Volume
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CPV Section	Treatability Group	MWIR ID (by subgroup)	Net Covered Waste Inventory by Subgroup (reported in Rev. 4/5)		Revision 6 (3/98 FY97 Annual Update Changes)		Revision 6 Other Changes		Revision 7		Subtotal (by subgroup)		Net Covered Waste Inventory (including Rev. 7 changes)	
			Items	Volume m ³	Items	Volume m ³	Items	Volume m ³	Items	Volume m ³	Items	Volume m ³	Items	Volume m ³
3.2.1 3.1.11	Nonhalogen-ated Organic Liquids	LA-W908-0	275	14.34	Increase 0 ^a	Increase 0.076					271	13.82	843 899	20.20 20.22
					Decrease 4	Decrease 0.49								
					Decrease 0 ^b	Decrease 0.11								
		LA-W908-4	409	3.38							409	3.38		
		LA-W908-5	130	2.91							130	2.91		
		LA-W908-6	0	0.00	Increase 33	Increase 0.09				33	0.09			
		LA-W908-7							Increase 56	Increase 0.02	56	0.02		
3.2.1 3.1.11	Bulk Oils	LA-W909-0	28	3.75	Increase 0 ⁱ	Increase 0.47					5	2.00	45	5.81
					Decrease 23	Decrease 2.22								
		LA-W909-4	8	1.48							8	1.48		
		LA-W909-5	28	2.28							28	2.28		
		LA-W909-6	0	0.00	Increase 4	Increase 0.05				4	0.05			
3.2.1 3.1.11	PCB Wastes with RCRA Components	LA-W910-0	4	0.74	Increase 6	Increase 0.62 ^b					10	1.36	40	2.75
		LA-W910-6	0	0.00	Increase 30	Increase 1.39					30	1.39		

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CPV Section	Treatability Group	MWIR ID (by subgroup)	Net Covered Waste Inventory by Subgroup (reported in Rev. 4/5)		Revision 6 (3/98 FY97 Annual Update Changes)		Revision 6 Other Changes		Revision 7		Subtotal (by subgroup)		Net Covered Waste Inventory (including Rev. 7 changes)	
			Items	Volume m ³	Items	Volume m ³	Items	Volume m ³	Items	Volume m ³	Items	Volume m ³	Items	Volume m ³
3.2.1 3.1.11	Liquid and Solid Oxidizers	LA-W923-0	6	0.117							6	0.117	93	1.5
		LA-W923-4	67	0.145							67	0.145		
		LA-W923-5	13	0.317							13	0.317		
		LA-W923-6	0	0.00	Increase 7	Increase 0.795					7	0.795		
3.3 3.2	Lead Waste - TBD	LA-W924-0	129	40.16							129	40.16	129	40.16
3.3 3.2	Mercury Wastes - TBD	LA-W925-0	63	18.30							63	18.30	137	20.91
		LA-W925-4	37	0.42							37	0.42		
		LA-W925-5	14	1.52							14	1.52		
		LA-W925-6	0	0.00	Increase 23	Increase 0.67					23	0.67		
3.3 3.2	Compressed Gases - TBD	LA-W926-0	10	1.25							10	1.25	10	1.25
3.3 3.2	Biochemical Laboratory Wastes	LA-W927-0	9	1.34							9	1.34	9	1.34
3.3 3.2	Dewatered Treatment Sludge	LA-W928-0	61	12.71							61	12.71	61	12.71
3.3 3.2	Explosives	LA-W932-0	0	0.00							0	0.00	1	0.000001
		LA-W932-4	1	0.000001							1	0.000001		
3.3 3.2	Lab Packs	LA-W933-0	0	0.00							0	0.00	149 153	0.30
		LA-W933-4	114	0.17							114	0.17		
		LA-W933-5	28	0.13							28	0.13		
		LA-W933-6	0	0.00	Increase 6	Increase 0.003	Increase 1	Increase 0.00002			7	0.003		
		LA-W933-7	0	0.00					Increase 4	Increase 0.002	4	0.002		

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Background Volume
03/04/99

CPV Section	Treatability Group	MWIR ID (by subgroup)	Net Covered Waste Inventory by Subgroup (reported in Rev. 4/5)		Revision 6 (3/98 FY97 Annual Update Changes)		Revision 6 Other Changes		Revision 7		Subtotal (by subgroup)		Net Covered Waste Inventory (including Rev. 7 changes)	
			Items	Volume m ³	Items	Volume m ³	Items	Volume m ³	Items	Volume m ³	Items	Volume m ³	Items	Volume m ³
3.4.1 3.3.1	Lead for Surface Decontamination	LA-W930-0	36	33.43	Decrease 1				Increase 0 ^p	Increase 0.095	23 22	26.27	148 147	61.25 61.14
					Decrease 4				Decrease 1	De-crease 0.208		26.16		
					Decrease 6									
		LA-W930-5	115	23.75	Decrease 1	Decrease 0.21 ^k					111	22.92		
					Decrease 3	Decrease 0.62 ^k								
		LA-W930-6	0	0.00	Increase 14	Increase 12.06					14	12.06		
3.4.2 3.3.2	Nonradioactive or Suspect Waste Items to be Surveyed	LA-W929-0	2	0.0076	Decrease 2	Decrease 0.0076					0	0.00	0	0.00
		LA-W929-5	1	0.00002			Decrease 1	Decrease 0.00002 ^l			0	0.00		
None ^d 3.3.3	Lead Requiring Sorting	LA-W931-0	23	4.76	Decrease 23	Decrease 4.78					0	0.00	12	1.08
					Increase 0 ^m	Increase 0.02								
		LA-W931-5	8	0.44							8	0.44		
		LA-W931-6	0	0.00	Increase 4	Increase 0.64					4	0.64		
None ^e	IPA	None	0	0.00	Increase 1	Increase 0.0005 ⁿ					0	0.00	0	0.00
					Decrease 1	Decrease 0.0005 ⁿ								

FY98 Annual STP Update DRAFT
 Background Volume
 03/04/99

CPV Section	Category	MWIR ID (by subgroup)	Net Covered Waste Inventory by Subgroup (reported in Rev. 4/5)		Revision 6 (3/98 FY97 Annual Update Changes)		Revision 6 (Other Changes)		Revision 7		Subtotal (by subgroup)		Net Covered Waste Inventory (including Rev. 6 changes)	
			Items	Volume (m ³)	Items	Volume (m ³)	Items	Volume (m ³)	Items	Volume (m ³)	Items	Volume (m ³)	Items	Volume (m ³)
3.5 3.4	Missing/ nonexistent/ TBV	NONE (Revision 5)	48	8.81					0	Decrease 0.00095 ^p	48	8.81	48	8.81

NOTES:

- * This correction in LA-W904 volume arises from an error in the Appendix B in Revision 4/5 as discussed in Revision 6.0.
- ^b This transfer of LA-W904 waste to LA-W910 was approved by NMED on September 18, 1997 as discussed in Revision 6.0
- ^c This transfer of LA-W904 waste to LA-W911 was approved by NMED on September 18, 1997 as discussed in Revision 6.0
- ^d This correction in LA-W906 volume arises from an error in the Appendix B in Revision 4/5 as discussed in Revision 6.0.
- ^e The volume increase arises from the return of unused treatability study sample. It has been returned to the original inventory of LA-W919 (subgroup -0) consistent with the inventory subgroup from which the sample was removed.
- ^f These 5 items in subgroups LA-W921-0 and -5 (0.89 m³ total) were shipped on December 9, 1996 as discussed in DOE's letter dated December 24, 1996.
- ^g This increase in LA-W908 volume arises from an error in the original STP inventory data as discussed in Revision 6.0.
- ^h This decrease in LA-W908 volume arises from an error in the original STP inventory data as discussed in Revision 6.0.
- ⁱ This correction in LA-W909 volume arises from an error in Appendix B in Revision 4/5 as discussed in Revision 6.0.
- ^j This transfer of LA-W929 waste to LA-W933 is discussed in Revision 6.0.
- ^k The shipment of 0.32 m³, as reported in the FY97 STP Annual Update, consisted of 1 item (0.11 m³) from subgroup LA-W930-0 and 1 item (0.21 m³) from subgroup -5. The shipment of 0.97 m³, as reported in the FY97 STP Annual Update, consisted of 4 items (0.35 m³) from subgroup -0 and 3 items (0.62 m³) from subgroup -5.
- ^l This treatability group (LA-W931, Lead Requiring Sorting) is not listed in the CPV; however it is discussed in section 3.4.3 of the Background Volume.
- ^m This increase in LA-W931 volume arises from an error in the original STP inventory data as discussed in Revision 6.0.
- ⁿ This item of isopropyl alcohol waste was not included in the original STP inventory and it was shipped for treatment as discussed in DOE's letter dated January 9, 1997.
- ^o The increase in volume without increasing the number of items results from an error in the original STP inventory data as discussed in Revision 7.0.
- ^p Item found as discussed in Revision

Attachment B
1998 STP Annual Update
Compliance Plan Volume

**Los Alamos National Laboratory
Federal Facility Compliance Order
Annual Site Treatment Plan Update
for Fiscal Year 1998**

Compliance Plan Volume

March 31, 1999

Los Alamos

NATIONAL LABORATORY

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1.0 INTRODUCTION.

On October 4, 1995, the New Mexico Environment Department (NMED) issued a Federal Facility Compliance Order (FFCO) to the Department of Energy (DOE) and its management and operating contractor, the University of California (UC) Regents. The FFCO requires Los Alamos National Laboratory (LANL) to implement the Site Treatment Plan (STP) for the treatment of mixed waste at LANL. The STP was written to address treatment capacities and technologies to treat all of LANL's mixed waste, regardless of the time it was generated. Section VII of the FFCO requires LANL to submit an *Annual Site Treatment Plan Update (Update)* to the NMED each year on or before March 31.

The STP contains two volumes, the Compliance Plan Volume (CPV) and the Background Volume (BV). The FFCO requires that the Annual Update bring the information in both volumes current to the end of the previous federal fiscal year (FY). The update to the CPV contains changes and revisions to the CPV occurring since the previous Annual Update; proposed revisions and amendments, including compliance date changes; a description of waste deleted in accordance with the requirements in Section IX (Deletion of Waste); documentation of new covered waste in accordance with the requirements in Section VIII (Addition of New Covered Waste); and any other changes to the overall schedule in the CPV of the STP. The Annual Update to the CPV identifies changes that require NMED approval as a revision under Section X (Revisions) or an amendment under Section XI (Other Amendments to the STP). The following information contains the update to the CPV.

1.1 ACTIVITIES COMPLETED DURING FY98.

During FY98, DOE and UC completed the following required CPV Activities on or before their required Compliance Dates, as described below in Table 1. DOE and UC pursued off-site treatment and disposal as a parallel option to the development and permitting of on-site mixed waste treatment facilities. Therefore, many of the milestones described below consisted of notifications of parallel options, in place of permit applications, amendments or modifications.

Table 1: FY98 FFCO or STP Milestones

STP or FFCO	STP/FFCO Reference	Title/Text	Treatability Group	Compliance Date
FFCO	XX.C.1	10-day notification for STP milestone 3.4.2I	LA-W929-3	10/10/97
FFCO	XX.C.1	10-day notification for STP milestone 3.4.1A(1)	LA-W930-1	10/10/97
STP	3.5A	Initiate re-verification process on a	Missing/non-	01/03/98

		shipment-by-shipment basis	existent/TBV	
STP	3.1.5A	Submit Permit application, amendment or modification to NMED (macroencapsulation skid)	LA-W912 LA-W921 LA-W922	01/04/98
FFCO	XX.C.1	10-day notification for STP milestone 3.5A	Missing/non-existent/TBV	01/13/98
FFCO	XX.C.1	10-day notification for STP milestone 3.1.5A	LA-W912 LA-W921 LA-W922	01/14/98
STP	3.1.10A	Submit Permit application, amendment or modification to NMED (amalgamation skid)	LA-W920	01/30/98
FFCO	XX.C.1	10-day notification for STP milestone 3.1.10A	LA-W920	02/09/98
STP	3.1.8A	Submit Permit application, amendment or modification to NMED (gas scrubbing skid)	LA-W917	03/10/98
STP	3.1.9A	Submit Permit application, amendment or modification to NMED (gas oxidation skid)	LA-W918	03/10/98
FFCO	XX.C.1	10-day notification for STP milestone 3.1.8A	LA-W917	03/20/98
FFCO	XX.C.1	10-day notification for STP milestone 3.1.9A	LA-W918	03/20/98
FFCO	VII.A	Submit Annual STP Updates	NA	03/31/98
STP	3.4.2J	Submit documentation assigning waste items to applicable treatability groups or proposing off-site shipment dates	LA-W929-5	03/31/98
FFCO	XX.C.1	10-day notification for STP milestone 3.4.2J	LA-W929-5	4/10/98
FFCO	XX.C.1	10-day notification for STP milestone 3.4.2K	LA-W929-5	4/10/98
STP	3.3C	Complete sampling and analysis	LA-W924 LA-W925-0 LA-W926 LA-W927 LA-W928	9/30/98

2.0 REVISIONS AND AMENDMENTS APPROVED IN FY98.

This section describes revisions, amendments, or other changes to the LANL CPV approved in FY98 under the FFCO. The STP Compliance Plan Volume has been modified several times since it was originally issued, in accordance with the provisions of Section X, "Revisions," and Section XI, "Other Amendments to the STP," of the October 4, 1995 Federal Facility Compliance Order, as amended and revised. CPV Appendix A, *Summary of STP/FFCO Chronology*, provides a summary of these CPV changes, and of

modifications to the FFCO since its issuance. Revisions 4.0 and 5.0 were originally proposed in FY97, formally submitted in FY98, and approved in FY98. Revision 6.0 was proposed and approved during FY98. Revisions 7.0 and 8.0 were proposed during FY98 and approved during FY99.

2.1 CPV REVISION 4.0 (SORT, SURVEY, AND DECONTAMINATION).

On February 28, 1997, DOE and UC requested a revision to revise the CPV language as a result of completing survey activities for the 1,250 covered waste items originally in CPV Section 3.4.2, titled *Sorting, Surveying, and Decontamination*. Revision 4.0 was formally submitted to NMED on November 24, 1997 and approved on December 29, 1997.

The purpose of Revision 4.0 was to document the transfer of STP covered wastes from treatability group LA-W929, "*Nonradioactive or suspect items to be surveyed*," to other treatability groups, and to propose the deletion of some of these LA-W929 covered wastes because they were treated and disposed of.

In Revision 4.0, DOE and UC proposed to revise the Compliance Plan Volume language as follows:

- To transfer 1,196 covered waste items in Treatability Group LA-W929 items to other treatability groups (which required creation of two new treatability groups);
- To transfer 41 covered waste items in treatability group LA-W929 that have been determined to be missing or nonexistent to the newly-created category called "*Missing/nonexistent/TBV*" (to be verified);
- To document the deletion of 11 already-treated LA-W929 items; and
- To change the treatability group name for MWIR ID No. LA-W923.

2.2 CPV REVISION 5.0 (ADDITION OF NEW PRE-FY96 AND FY96 COVERED WASTE).

On March 31, 1997, concurrently with the *FY96 Annual Update*, DOE and UC requested a revision to modify the CPV. Revision 5.0 was formally submitted on November 24, 1997 and approved on December 29, 1997. The purpose of Revision 5.0 was to incorporate the following modifications into the LANL STP CPV:

- (1) increases and decreases (additions and deletions) in the covered waste inventory that occurred between the time when the original STP inventory was established (as reported in the October 4, 1995 FFCO) and the end of FY95, as presented in the *FY95 Annual Update*;

- (2) Increases and decreases (additions and deletions) in the covered waste inventory occurring during FY96, as presented in the *FY96 Annual Update*.

Additional changes DOE and UC requested included the following:

- Addition of a few mixed waste items that became covered waste under the FFCO since the end of FY96, in order to expedite their shipment to off-site facilities for treatment;
- Transfer of missing items from several treatability groups to the category called "*Missing/nonexistent/TBV*";
- Modification of the existing Compliance Dates for Activities 3.1.2B and 3.3E;
- Addition of two Appendices, which provide a history of CPV revisions and amendments (as Appendix A of the CPV), and a summary table of covered waste inventory changes (as Appendix B), respectively;
- Addition of "*schedule for development of lead processing techniques and options.*" DOE and UC were required to incorporate this schedule into Section 3.4.1 of the Compliance Plan Volume for those lead shapes and forms in the treatability group MWIR ID LA-W930 found to be "*not amenable to processing using the lead decontamination trailer*" and;
- Addition of minor clarifying language for CPV Section 2.1.4 regarding the use of off-site recycling facilities.

2.3 CPV REVISION 6.0.

DOE and UC submitted Revision Request 6.0 concurrently with the *FY97 Annual Update* on March 30, 1998. This revision addressed changes that adjusted the CPV inventory to reflect FY97 activities and estimated inventory changes. Revision 6.0 also proposed specific numerical changes and/or corrections to reconcile the overall CPV inventory. In addition, Revision 6.0 transferred the sole remaining item in LA-W929, (which was added in Rev 5.0), to an existing Treatability Group. Revision 6.0 was approved on July 31, 1998.

The following modifications were proposed in Revision 6.0:

- Increases to the STP covered waste inventory due to the addition of newly covered waste and decreases to the STP covered waste inventory due to shipment of covered wastes during FY97;
- Transfer of wastes from treatability group "*Soil with heavy metals,*" MWIR Waste ID LA-W904, to treatability group "*organic-contaminated combustible solids,*" MWIR Waste ID LA-W911, and to treatability group "*PCB wastes*"

with RCRA components," MWIR Waste ID LA-W910, as approved by the NMED by letter dated September 18, 1997;

- Increase to the STP covered waste volume due to the return of an unused treatability study sample from an off-site facility in FY97; and
- Corrections to the original (October 4, 1995) STP covered waste inventory.
- Corrections to LANL STP Revision 5.0;
- Transfer of one item from the treatability group "*Nonradioactive or Suspect Waste Items to be Surveyed,*" MWIR Waste ID LA-W929, to treatability group "*Lab Packs,*" MWIR Waste ID LA-W933, thereby completing Activity 3.4.2 J; and;
- Addition of Compliance Dates in Sections 3.1.3 and 3.4.1 for waste that became covered waste during FY97.

3.0 REVISIONS AND AMENDMENTS PROPOSED IN FY98 AND APPROVED IN FY99

3.1 CPV REVISION 7.0.

Revision 7.0 was submitted on June 30, 1998 and approved on November 30, 1998. Revision 7.0 included the following modifications:

- All activities and compliance dates related to the construction, permitting, and operation of on-site treatment skids were removed from the CPV. The CPV was modified to emphasize that off-site treatment is the primary treatment option applicable to all MLLW streams in the CPV.
- An additional 27 gas cylinders were approved for addition to the STP inventory. Twelve gas cylinders were added to the treatability group, "*Compressed gases requiring scrubbing,*" MWIR Waste ID LA-W917. Fifteen gas cylinders were added to the treatability group, "*Compressed gases requiring oxidation,*" MWIR Waste ID LA-W918.
- On-site recycling or re-use was approved for addition to each treatability group in the CPV, as a parallel preferred option.
- The CPV was modified to specify that DOE and UC will continue to notify the NMED when off-site treatability studies are conducted on STP waste.

- The CPV was modified to add the capability for on-site radiological decontamination activities such as sand blasting, hand-scrubbing, or electrolytic decontamination. These decontamination activities could result in reducing or removing the radiological contamination from the waste such that the waste could be recycled or disposed of as non-radioactive.
- Modifications were made to the tables in the CPV for clarification purposes. To be consistent with the *STP Background Volume*, a new section was added to the CPV (Section 3.3.3, "*Lead Requiring Sorting*") along with associated compliance dates.
- Newly identified covered waste was approved for addition to the STP inventory.

The Revision 7.0 proposal also included a request to provide an option for DOE and UC to ship covered waste, under special circumstances, prior to addition of the waste in an approved revision. This methodology was proposed in order to expedite the shipment of covered waste to off-site facilities for treatment and disposal, pending formal addition of the waste in an approved revision. This methodology was meant to apply in circumstances where covered waste could be added to a planned off-site shipment, rather than storing the waste for separate shipment, pending formal addition to the STP inventory.

The above proposal was not incorporated into the language of the CPV. It was agreed, however, that the NMED would deal with such requests on an individual basis, as an administrative process.

3.2 CPV REVISION 8.0.

Revision 8.0 was submitted on September 10, 1998 and approved on December 3, 1998. An extension for the compliance dates for the following two activities for MTRU waste was approved in Revision 8.0. The first activity is "*development of treatment technologies,*" and the second activity is "*submit permit application, amendment or modification to NMED for treatment of MTRU.*" These activity dates were extended to the year 2004.

Upon approval of Revision 8.0, The NMED added the following language, "*Should WIPP open, the DOE will begin to transport MTRU for disposal as soon as possible, and not wait until the compliance dates under Activity A and B occur (if applicable).*"

4.0 DESCRIPTION OF WASTE DELETED IN ACCORDANCE WITH FFCO SECTION IX.

Two revision requests that included volume-decreases in treatability groups were submitted in FY97 and approved in FY98, Revisions 4.0 and 5.0.

One revision request, Revision Request 6.0, was submitted and approved in FY98. Revision 6.0 included volume decreases in treatability groups.

The FY98 proposal for deletion of STP waste items will be included with this update as Proposed Revision 9.0. These deletions are proposed due to off-site shipments for treatment, disposal or recycling. A detailed description of these covered wastes is provided in the FY98 *Background Volume Update* and in *Revision Proposal 9.0*.

5.0 DOCUMENTATION OF NEW COVERED WASTE IN ACCORDANCE WITH THE REQUIREMENTS IN FFCO SECTION VIII.

Two revision requests that included volume additions in treatability groups were submitted in FY97 and approved in FY98, Revisions 4.0 and 5.0.

Two revision requests that included volume additions in treatability groups were submitted in FY98, Revisions 6.0 and 7.0. Revision 6.0 was approved in FY98 and Revision 7.0 was approved in FY99.

The FY98 proposal for addition of STP waste items will be included with this update as Proposed Revision 9.0. These additions are due to waste that was placed in storage during FY97 and became covered waste in FY98. A detailed description of these covered wastes is provided in the FY98 *Background Volume Update* and in *Revision Proposal 9.0*.

6.0 ANY OTHER CHANGES TO THE OVERALL SCHEDULE IN THE COMPLIANCE PLAN VOLUME.

The following Section provides a discussion of the Letter of Violation that was received by UC and DOE during FY97. The Letter of Violation was closed out on August 11, 1998.

6.1 FEBRUARY 14, 1997 LETTER OF VIOLATION.

On February 14, 1997, NMED issued a Letter of Violation to LANL containing five apparent findings related to LANL's compliance with STP requirements. NMED alleged

that DOE and UC failed to provide NMED notification pursuant to Section XX.C.1 of the FFCO and meet the compliance date for Activity 3.1.1A; that DOE and UC failed to meet the compliance date for Activity 3.4.2A; that DOE and UC failed to provide NMED timely notification regarding waste sent off-site, as set forth in Activity 3.1.1C; that DOE and UC failed to obtain approval from NMED for a revision for increases in treatability groups reported in the *FY95 Annual Update*; and that DOE and UC failed to report waste previously omitted from the October 1995 CPV inventory.

On April 4, 1997, DOE and UC submitted a STP Corrective Action Plan (STP-CAP) to NMED in order to address concerns raised in the February 14, 1997 Letter of Violation. Elements of the STP-CAP addressed each of the five apparent violations at issue. The STP-CAP identified several root causes of each occurrence and addressed each with a series of corrective action steps. All corrective action steps were completed before the end of FY97.

The Letter of Violation was closed out on August 11, 1998. The NMED, Hazardous and Radioactive Materials Bureau concurred that all of the measures outlined in the CAP had been completed.

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3. “*Los Alamos National Laboratory Federal Facility Compliance Order, Compliance Plan Volume, Proposed Revision 5.0,*” J. Plum, LAAO to J. Archuleta, (November 24, 1997).
4. “*Los Alamos National Laboratory Federal Facility Compliance Order, Compliance Plan Volume, Proposed Revision 6.0,*” J. Plum, LAAO to J. Archuleta, (March 30, 1998).
5. “*Los Alamos National Laboratory Federal Facility Compliance Order, Compliance Plan Volume, Proposed Revision 7.0,*” J. Plum, LAAO to J. Archuleta, NMED (June 30, 1998).
6. “*Los Alamos National Laboratory Federal Facility Compliance Order, Compliance Plan Volume, Proposed Revision 8.0,*” J. Plum, LAAO to J. Archuleta, NMED (September 10, 1998).
7. “*Approval of Revisions 4.0 and 5.0 to the CPV,*” J. Archuleta, NMED to J. Plum, LAAO, (December 30, 1997).
8. “*Approval of Revision 6.0 to the CPV,*” J. Archuleta, NMED to J. Plum, LAAO, (July 31, 1998).
9. “*Finalization of Revision 7.0 Request to FFCO STP CPV,*” J. Archuleta, NMED to J. Plum, LAAO, (November 30, 1998).
10. “*Finalization of Revision 8.0 Request to FFCO STP CPV,*” J. Archuleta, NMED to J. Plum, LAAO, (December 3, 1998).
11. “*Federal Facility Compliance Order (Letter of Violation),*” J. Archuleta, NMED to J. Plum, LAAO, (February 14, 1997).
12. “*Letter of Violation Closure,*” J. Archuleta, NMED to J. Plum, LAAO, (August 11, 1998).
13. “*Los Alamos National Laboratory Federal Facility Compliance Order, Annual Site Treatment Plan Update for Fiscal Year 1997,*” (March 31, 1998).

14. *“Los Alamos National Laboratory Federal Facility Compliance Order, Annual Site Treatment Plan Update for Fiscal Year 1996,”* (March 31, 1997).

Attachment C

Site Treatment Plan

Revision Proposal 9.0

**LOS ALAMOS NATIONAL LABORATORY SITE TREATMENT PLAN
PROPOSED REVISION 9.0**

**LOS ALAMOS NATIONAL LABORATORY FEDERAL FACILITY
COMPLIANCE ORDER**

The purpose of this revision request is to reflect changes in the mixed low-level waste (MLLW) inventories in the Los Alamos National Laboratory (LANL) Compliance Plan Volume (CPV) of the Site Treatment Plan (STP), as described in the Fiscal Year 1998 (FY98) STP *Annual Update*. The changes proposed by this revision to the CPV will allow the added covered wastes to be treated or otherwise managed in accordance with the Activities and Compliance Dates pertaining to each treatability group, as adopted or revised herein. The CPV text changes are indicated in the redline strikeout version provided in Enclosure D. The revised CPV "clean copy" text is provided as Enclosure E.

Section X.C.2.a. of Federal Facility Compliance Order (Los Alamos National Laboratory): Detailed description of the proposed revision.

The Department of Energy (DOE) and the University of California (UC) are proposing to revise the Compliance Plan Volume text to reflect the following changes in MLLW covered waste inventories, as described in the FY98 STP *Annual Update*:

- Increases to the STP covered waste inventory due to the addition of newly covered waste during FY98;
- decreases to the STP covered waste inventory due to shipments of covered wastes during FY98;
- Adjustments to the original (October 4, 1995) STP covered waste inventory.

The volume changes are proposed in accordance with the applicable requirements in the FFCO, as amended: Section VIII, "*Addition of New Covered Waste*"; Section X.B.4, "*Revisions*"; and Section XI, "*Deletion of Waste.*"

Addition of newly covered waste

DOE and UC are requesting that the following waste be added to the STP as covered waste, as described also in the FY98 STP *Annual Update*. The total volume of covered waste that is requested for addition is 10.90 cubic meters

Table 1: Proposed Addition of Newly Covered Waste

CPV Section	MWIR Waste ID	Treatability Group	Items	Volume (m ³)
3.1.3	LA-W906	<i>Aqueous Organic Liquids</i>	11	0.02
3.1.11	LA-W907	<i>Halogenated Organic Liquids</i>	6	0.02
3.1.11	LA-W908	<i>Nonhalogenated Organic Liquids</i>	44	0.41
3.1.11	LA-W909	<i>Bulk Oils</i>	2	0.42
3.1.11	LA-W910	<i>PCB Wastes with RCRA Components</i>	4	0.10
3.1.4	LA-W911	<i>Organic-Combustible Solids</i>	7	0.64
3.1.6	LA-W913	<i>Aqueous Wastes with Heavy Metals</i>	30	1.33
3.1.6	LA-W914	<i>Corrosive Solutions</i>	14	0.01
3.1.6	LA-W915	<i>Aqueous, Cyanides, Nitrates, Chromates, and Arsenates</i>	5	0.91
3.1.7	LA-W916	<i>Water-Reactive Wastes</i>	1	0.05
3.1.4	LA-W919	<i>Organic-Contaminated Noncombustible Solids</i>	13	1.59
3.1.10	LA-W920	<i>Elemental Mercury</i>	1	0.002
3.1.5	LA-W922	<i>Non-Combustible Debris</i>	25	5.40

Deletion of covered waste

DOE and UC are requesting that the following covered waste be deleted from the STP, as also described in the FY98 STP *Annual Update*. These covered wastes were either shipped off-site for treatment and disposal or recycling; treated on-site for lead decontamination; or used in treatability studies. The total volume of covered waste that is requested for deletion is 99.93 cubic meters.

Table 2: FY98 STP MLLW Off-Site Shipments for Treatment

Date Shipped	Date Shipment Received	Date Letter Sent to NMED	Destination	Waste	Items	CPV Volume Treated (m ³)	CPV Section
3/10/98	3/12/98	4/9/98	Envirocare	LA-W924 Lead wastes, TBD	44	2.5	3.3
3/19/98	3/23/98	4/24/98	DSSI	LA-W909 Bulk oils	7	1.08	3.2.1
3/19/98	3/23/98	4/24/98	DSSI	LA-W908 Non-halogenated organic liquids	9	1.87	3.2.1
3/19/98	3/23/98	4/24/98	DSSI	LA-W906 Aqueous organic liquids	14	2.91	3.1.3

Table 2: FY98 STP MLLW Off-Site Shipments for Treatment (continued)

Date Shipped	Date Shipment Received	Date Letter Sent to NMED	Destination	Waste	Items	CPV Volume Treated (m ³)	CPV Section
3/20/98	3/23/98	4/28/98	Envirocare	LA-W924 Lead wastes, TBD	52	10.54	3.3
3/20/98	3/24/98	5/7/98	Envirocare	LA-W911 Organic contaminated combustible solids	17	3.54	3.1.4
3/20/98	3/24/98	5/7/98	Envirocare	LA-W919 Organic contaminated non-combustible solids	31	6.45	3.1.4
5/26/98	5/27/98	6/25/98	WCS	LA-W916 Water-reactive wastes	53	5.70	3.1.7
6/3/98	6/4/98	7/1/98	WCS	LA-W925 Mercury wastes, TBD	4	14.49	3.3
7/28/98	7/30/98	9/1/98	DSSI	LA-W906 Aqueous organic liquids	22	3.92	3.1.3
8/31/98	9/2/98	10/9/98	DSSI	LA-W908 Non-halogenated organic liquids	35	1.65	3.2.1
8/31/98	9/2/98	10/9/98	DSSI	LA-W907 Halogenated organic liquids	77	4.97	3.2.1
8/31/98	9/2/98	10/9/98	DSSI	LA-W913 Aqueous wastes with heavy metals	1	0.004	3.1.6
9/22/98	9/25/98	10/23/98	DSSI	LA-W907 Halogenated organic liquids	50	6.94	3.2.1
9/22/98	9/25/98	10/23/98	DSSI	LA-W908 Non-halogenated organic liquids	45	.71	3.2.1
9/28/98	9/29/98	10/23/98	WCS	LA-W911 Organic- decontaminated combustible solids	1	0.0001	3.1.4
9/28/98	9/29/98	10/23/98	WCS	LA-W912 Combustible debris	1	.00005	3.1.5
9/28/98	9/29/98	10/23/98	WCS	LA-W916 Water reactives	23	0.22	3.1.7

Table 2: FY98 STP MLLW Off-Site Shipments for Treatment (continued)

Date Shipped	Date Shipment Received	Date Letter Sent to NMED	Destination	Waste	Items	CPV Volume Treated (m ³)	CPV Section
9/28/98	9/29/98	10/23/98	WCS	LA-W923 Liquid and solid oxidizers	1	0.001	3.2.1

Table 3: FY98 STP MLLW Off-Site Shipments for Recycling

Date Shipped	Date Shipment Received	Date Letter Sent to NMED	Destination	Waste	Items	CPV Volume Treated (m ³)	CPV Sec.
8/18/98	8/20/98	9/10/98	GTS Duratek, Bear Creek Operations	LA-W924 Lead wastes, TBD	4	5.52	3.3
9/16/98	9/21/98	10/15/98	GTS Duratek, Bear Creek Operations	LA-W930 Lead for Surface Decontamination	24	4.99	3.4.1
9/25/98	9/26/98	10/23/98	GTS Duratek, Bear Creek Operations	LA-W930 Lead for surface decontamination	32	6.66	3.4.1

Table 4: FY98 STP MLLW On-Site Lead Decontamination

Date Shipped	Date Shipment Received	Date Letter Sent to NMED	Destination	Waste	Items	CPV Volume Treated (m ³)	CPV Sec.
10/28/97	N/A	N/A	On-site lead decontamination	LA-W930 Lead for surface decontamination	2	0.68	3.3.1
10/30/97	N/A	N/A	On-site lead decontamination	LA-W930 Lead for surface decontamination	2	0.09	3.3.1
1/6/98	N/A	N/A	On-site lead decontamination	LA-W924 Lead wastes, TBD	1	.003	3.2
1/6/98	N/A	N/A	On-site lead decontamination	LA-W930 Lead for surface decontamination	10	2.08	3.3.1
1/29/98	N/A	N/A	On-site lead decontamination	LA-W930 Lead for surface decontamination	22	4.58	3.3.1
2/5/98	N/A	N/A	On-site lead decontamination	LA-W930 Lead for surface decontamination	1	4.25	3.3.1

Table 5: FY98 STP MLLW Off-Site Shipments for Treatability Studies.

Date Shipped	Date Shipment Received	Date Letter Sent to NMED	Destination	Waste Type	Items	CPV Volume Treated (m ³)	CPV Sec.
12/9/97	N/A	10/20/98	IT Corp.	LA-W917 Compressed gases requiring scrubbing	10*	0.28*	3.1.8
12/9/97	N/A	10/20/98	IT Corp.	LA-W918 Compressed gases requiring oxidation	5*	0.05*	3.1.9
12/9/97	N/A	10/20/98	IT Corp.	LA-W926 Compressed gases TBD	9	1.06	3.2
12/10/97	N/A	N/A	CMRI	LA-W920 Elemental Mercury	1	0.02	3.1.10
12/17/97	N/A	N/A	PermaFix	LA-W922 Noncombustible debris	8	2.02	3.1.5
6/16/98	6/19/98	5/28/98	Catholic University	LA-W914 Corrosive solutions	1	0.00003	3.1.6
6/16/98	6/19/98	5/28/98	Catholic University	LA-W915 Aqueous Cyanides, Nitrates, Chromates, and Arsenates	12	0.14	3.1.6
6/16/98	6/19/98	5/28/98	Catholic University	LA-W922 Noncombustible debris	15	0.008	3.1.5
6/16/98	6/19/98	5/28/98	Catholic University	LA-W933 Lab packs	2	0.001	3.3
7/30/98	8/7/98	7/1/98	Oak Ridge	LA-W908 Nonhalogenated Organic Liquids	1	0.001	3.1.6

*Gas cylinders that were removed from the 12/9/97 shipment due to DOT issues. The remaining cylinders were shipped on November 5, 1998, as discussed in the letter from DOE to NMED dated October 20, 1998.

Adjustments to the original (October 4, 1995) STP covered waste inventory

DOE and UC are requesting the following adjustments to the original (October 4, 1995) STP covered waste inventory. Administrative adjustments are due to discrepancies found during quality control activities related to preparing waste for treatment and disposal. These adjustments result in additions of newly found covered waste, transfers of waste to other treatability groups, or transfers of waste to the missing/nonexistent/TBV category of the STP.

Table 6: Proposed Administrative Adjustments

CPV Section	MWIR Waste ID	Treatability Group	Items	Volume (m ³)	Comments
3.1.3	LA-W906	<i>Aqueous Organic Liquids</i>	2	0.001	Newly found
3.1.4	LA-W911	<i>Organic-Contaminated Combustible Solids</i>	3	0.12	Newly found
3.1.5	LA-W921	<i>Activated or Inseparable Lead</i>	2 (1)* (2) 1**	0.00 (0.21) (0.32) 0.11	Transferred to missing On-site Lead Decon Transferred to LA-W910 Newly found
3.1.5	LA-W922	<i>Noncombustible Debris</i>	5	0.63	Newly found
3.1.6	LA-W914	<i>Corrosive Solutions</i>	2	0.006	Newly found
3.1.7	LA-W916	<i>Water-Reactive Wastes</i>	2 (1)	0.42 (0.11)	Newly found Transfer to LA-W908
3.1.9	LA-W918	<i>Compressed Gases Requiring Oxidation</i>	13	0.006	Newly found
3.1.11	LA-W910	<i>PCB Wastes with RCRA Components</i>	2 1	0.32 0.02	Transfer from LA-W921 Transfer from LA-W924
3.1.11	LA-W907	<i>Halogenated Organic Liquids</i>	5	0.21	Newly found
3.1.11	LA-W908	<i>Nonhalogenated Organic Liquids</i>	48 (1) 1	0.06 (0.01) 0.11	Newly found Transfer to missing Transfer from LA-W916
3.2	LA-W924	<i>Lead Wastes - TBD</i>	1 (2) (1)	0.10 (2.82) (0.02)	Newly found Transfer to missing Transfer to LA-W910
3.2	LA-W933	<i>Lab Packs</i>	9	0.009	Newly found
3.4	N/A	<i>Missing/ nonexistent/ TBV category</i>	1 8 2	0.01 2.82 0.0	Transfer from LA-W908 Transfer from LA-W924 Transfer from LA-W921

*This item was successfully decontaminated in the on-site decon operation on 8/23/95, but was not previously reported.
 **This item was originally part of LA-W930, "Lead for surface contamination". The item was shipped to the on-site lead decon operation but was found to be unamenable for lead decon. The item was placed back into storage but was reported incorrectly as treated in Revision 5.0.

Section X.C.2.b. of Federal Facility Compliance Order (Los Alamos National Laboratory): Rationale for the proposed revision.

1. Addition of newly covered waste

The increases in covered waste inventory as of the end of FY98 are attributed primarily to waste that was newly generated in FY97 which was not treated within 12 months of generation, thereby becoming covered waste during FY98. Approval of these proposed additions to the STP inventory will allow the added covered wastes to be treated or otherwise managed in accordance with the activities and compliance dates pertaining to each treatability group, as adopted or revised herein.

2. Deletion of covered waste

The decreases in covered waste inventory reflect the treatment and disposal or recycling of covered waste at off-site commercial facilities, recycling activities at the on-site

decontamination facility, or the participation in treatability studies during FY98. Deletion of this covered waste is proposed in order to more accurately reflect the DOE and UC STP inventory as of the end of FY98.

3. Adjustments to the original (October 4, 1995) STP covered waste inventory.

Administrative adjustments are due to discrepancies found during quality control activities related to preparing waste for treatment and disposal. These adjustments result in additions of newly found covered waste, transfers of waste to other treatability groups, or transfers of waste to the *missing/nonexistent/TBV* category of the STP. The adjustments to the original (October 4, 1995) STP covered waste inventory are proposed in order to more accurately reflect the DOE and UC STP inventory as of the end of FY98.

Section X.C.2.c. of Federal Facility Compliance Order (Los Alamos National Laboratory): Anticipated length of any delay in performance.

No delay in performance is anticipated for the inventory reported in this revision.

Section X.C.2.d. of Federal Facility Compliance Order (Los Alamos National Laboratory): Plan and schedule for implementing all reasonable measures.

All reasonable measures proposed could be implemented within the framework of the existing plan and schedule for the STP. No new milestone dates have been proposed in this revision.